The NON-STOP STOWAWAY

BY CLAYTON KNIGHT

Susan Skjel

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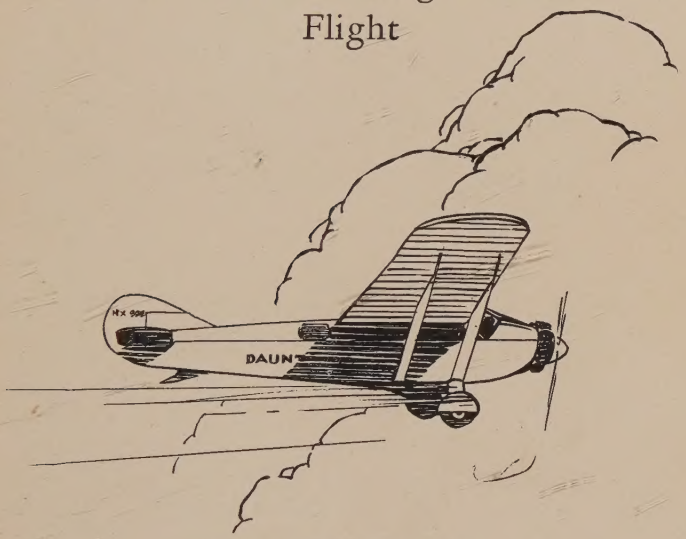
The Story of a Long Distance Flight



WRITTEN AND ILLUSTRATED BY

CLAYTON KNIGHT

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PREFACE

THIS *is a story for boys who want to know of the thrills and joys of Aviation. It is written by a war flyer who was a pilot with a squadron at the front and who there learned to know how he and other young men reacted to those dangerous moments when lightning-quick decisions were necessary.*

He has seen many boys learning to fly, and observed how most of them, after they had learned, acted in a crisis with the utmost coolness whether it was the sing of a bullet or the miss of a motor that brought the warning of danger.

He knows that those flyers were wrong in their belief during the war that no flying in peace time could equal the thrill and tingle of the nervous excitement which they were then experiencing.

Since the war ended, the design of planes and engines has so far advanced that distances are being spanned now that they never then believed possible.

Nature has put dangers in the paths of our modern flyers, as great or greater than that of an enemy, for from the moments of the dangerous take-off with tremendous loads of fuel, until the landing on another Continent, there can be no relaxation.

And after watching the planes leave for long ocean flights where no safe landing can be made for many hours, we have come to realize and appreciate the strain these pilots are under.

When several of these bidders for long distance honors have

failed to appear at their announced destination and when, after a frantic search has been carried on over land and sea, the world has been forced to admit that no trace—not even a stick of wood or a rag of fabric—can be found, then it is comforting to think, to hope, that somewhere, a safe landing has been made.

EDITOR.

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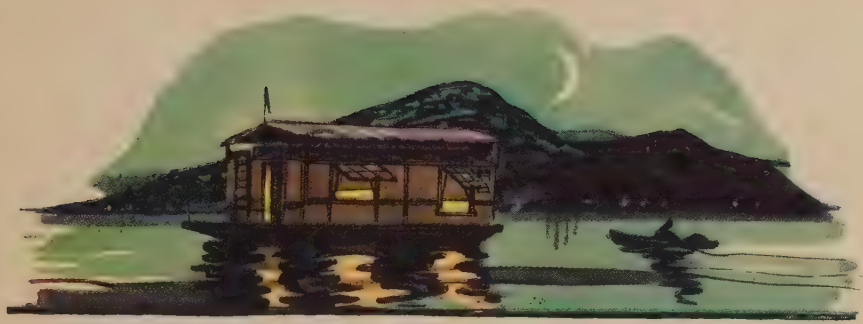


THE PLANE TESTED

CHAPTER I

SUPPER was over. The man and the boy, although they had finished, seemed in no hurry to clear the table. Darkness had come, and through the windows of their little houseboat twinkling lights on the shore half a mile away were reflected in the quiet waters of the bay. All was still except for the putt-putt of a motor-boat a long way off. The man in blue trousers and white shirt with the collar open seemed to be listening for something. The boy tried hard to get him to talk.

"How long will Dad be, do you suppose?" "Will he come back by train, or will he fly back?" were some of his questions.

Jack's reply to them all had been, "We'll see."

The boy thought to himself, "What a silly answer," but that seemed to be all the silent sailor man would say. He looked little enough like a sailor now, and not nearly as grand and imposing as when he had met the boy and his father in New York as they stepped off the train on their arrival from the West nearly a month ago. At that time he had appeared in his uniform of blue with gold braid and

gold wings. As they had driven out from the station across the crowded city with its strange noises and bewildering lights, there had been time to do little more than notice the slim straightness of him.

His Dad had said to Jack, after the first greetings were over, "Well, here's the young fellow I wrote you about. I couldn't leave him out West, and besides he will be a great help around the hangar."

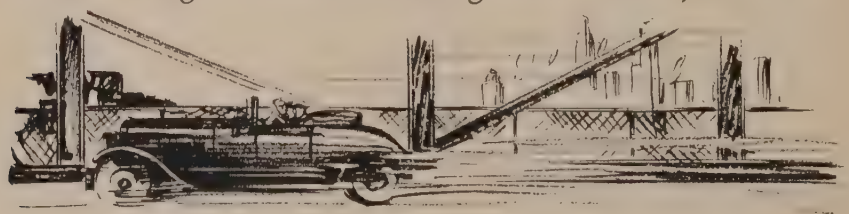
And Jack had replied, as he shook hands, "One more Kiwi for our camp."

"Right," said Dad, "but I have had to make him a promise that he won't be a Kiwi for long."

Kiwi was a good enough name in its way, and it did seem to stick to him wherever Dad went. All his boy friends knew him as Snub but, of course, the boys knew so little about flying and few of them knew where the name of Kiwi came from.

Dad had told him that during the war—and Dad had been there, so he should know—all of the officers who did not fly had come to be known as Kiwis, named after a bird from Australia or New Zealand "which had wings but did not fly."

So Kiwi he was. There seemed a promise in the name that one of these days he would learn to fly, for, after all, a Kiwi *did* have wings. It was something to start with, and on all



the flights he had gone on with Dad he had kept his eyes open and now felt that he understood all that had to be done to control the plane.

Often when they had landed after a flight, old war-time friends of Dad's would come over with a loud "Well, Skipper, how's the boy doing? Going to send him off solo* soon?"

And Dad would reply, "Not yet awhile. He has a lot to learn and there's plenty of time yet."

So on that first meeting with Jack, as they rolled across the bridge to Long Island, Kiwi had wondered if this broad-shouldered sailor-flyer could be coaxed into teaching him.

Dad and Jack had been too busy talking to notice him. Dad was asking a thousand questions: how much had they got done on the ship? . . . were the tanks installed yet? . . . had the motor been shipped? Dad seemed upset that more had not been accomplished. "We must get a hustle on if we're to get off by the 15th of June," he had said.

After they had been riding for some time, Kiwi asked:

"Whose house are we going to, Dad?"

Dad turned to Jack, who hurriedly said, "Wait till you see. I have had a wonderful idea. You remember Old Bert who used to fly the pontoons over at Rockaway—who would loop any old crate they would let him fly? He has a shipyard over here and is building houseboats—two sizes—and he thought we would like to use one of the smaller ones—just one big room and a little kitchen and a porch. We can moor it where we like, sleep under the awning on top, and keep the car on the shore near by so that we can run back and

*After a pupil completes his training with an instructor, who has a duplicate set of controls, then he is sent on his first solo flight. To fly solo is to fly alone.

forth to the field. That will only take about twenty minutes, and it means a good swim in the morning and another after mucking around the hangars all day. Does the Kiwi swim?"

"Like a fish."

"Well, that's settled then."

A half hour later they swung down a long hill and into the main street of a little town, nestling in a deep valley, with a long, lake-like arm of the Sound coming nearly to the center of the village. They turned off and wound through a big yard where piles of boards and planks and beams rose up

like top-heavy buildings along the narrow roads. The smell of cedar and pine hung in the air. They drew up at the wide-open door of a shed from which came the whine of buzz-saws and the pounding of hammers. They had hardly stopped when a sunburned man appeared at the door, evidently expecting them.

"Hello, Bert," they called.

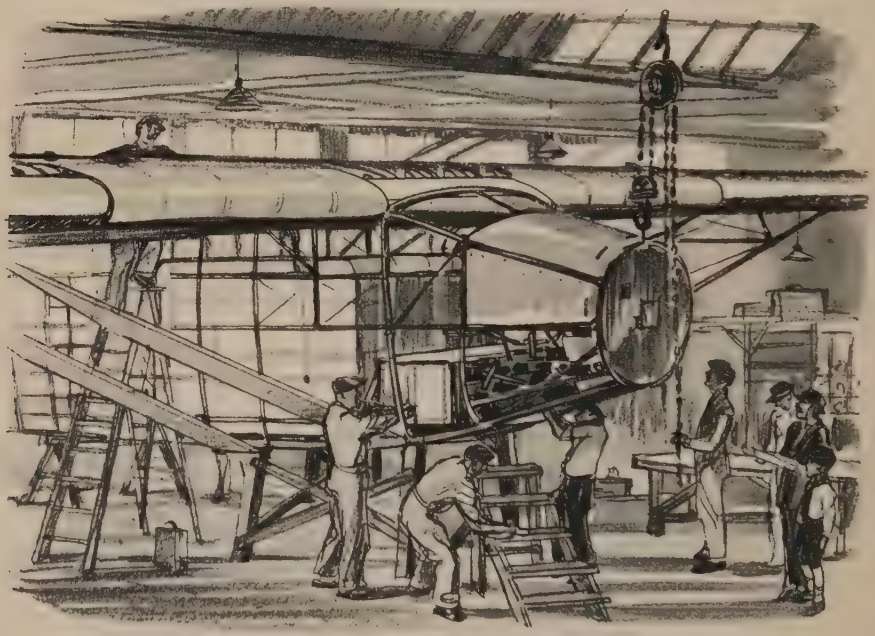
He rushed over to the car, shook hands with Dad, and there was a great hubbub of questions and answers. He said their boat was waiting, and it would be a tip-top place to spend a cool hour or so hearing all the news.

They were rowed out, and Kiwi spent busy minutes exploring the little houseboat. He came into the sitting room in time to hear Dad say to Bert, "As soon as the backers came across with the money, I wired Burrows to start work on the plane as we had planned it and to rush it through so that we could make our tests and still get off in June while the weather was good. Then I turned heaven and earth trying to find Jack. I had no idea whether he was out East with the fleet or had come back. When I did locate him, he was able to get leave from the Navy to make the flight, and hopped a train for Washington and got right to work on weather maps. He seems to have the navigation part of our trip very thoroughly in hand. Tomorrow I will get over to the factory and see if they cannot be hurried with the plane."

And from then on there had been endless conferences with old friends and new about equipment to be taken, routes to be followed, wind currents to dodge. The days had stretched into weeks, and still the plane was on the ground.

Kiwi had been taken to the factory twice. The plane looked

enormous even in its unfinished state. The body of the machine still lacked its covering, but in its middle sat an enormous metal tank. Control wires seemed to run in all directions. The big wing also carried two tanks, and only the wing tips were hollow. The engine was still missing. There were reports that it had been shipped, but for days after that it did not put in an appearance.



Nearly always Jack and Kiwi spent the day on the houseboat or driving over the winding country roads near by. Jack pored over maps and strange charts. He brought home queer instruments and tested them from the roof of their

houseboat during the moonlight nights. They swam, and once or twice they went fishing.

At last the day came when the plane was finished, and must be taken up for its first test flight. Jack and Dad had talked it over the day before, and it was decided that Jack and Kiwi should stay on the boat and let Dad do the testing.

"You'll get plenty of chances, Jack, later on, after I get the feel of it."

So now Jack and Kiwi sat there on the houseboat after supper, impatiently waiting for the sound of oars. About nine o'clock they heard a little boat bump against their home, and both rushed out.

It was Dad.

"Jack, she flies—she really does! She lifted off the ground in about two hundred yards and handled like a dream. Of course, there are some things to be done, but they can be fixed when we get the plane over at our field. You and I will go after it tomorrow and start our own work on it."

"May I go with you to bring it back, Dad?" Kiwi asked.

"Well, not this time. You'll have other chances later on."

The day that Dad and Jack went after the plane dragged

endlessly for Kiwi. He had been driven over to the airdrome early so that he could welcome them when they arrived. Ordinarily he would have been interested in the other planes that were busy about the fields. They were continually hopping off and landing, being fuelled up with gasoline and going up again. But today it was different. His mind was on Dad and Jack, and he was constantly on the lookout for their return.

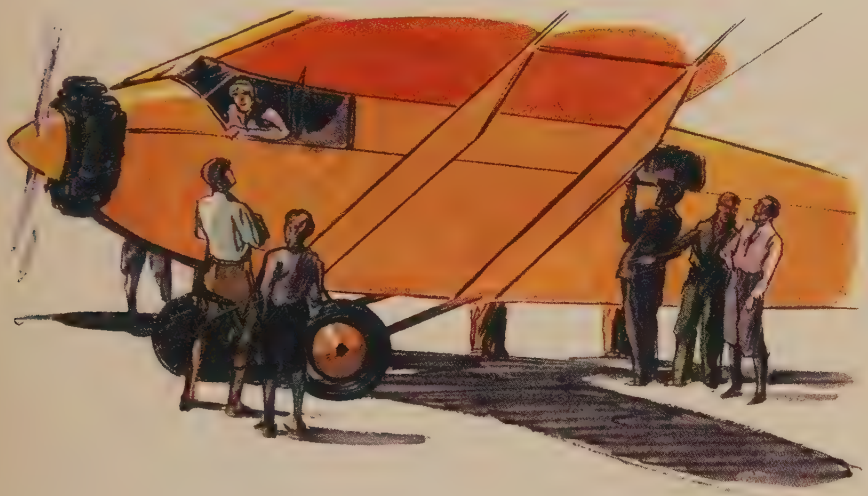
At last, late in the afternoon, the sound of a different motor drew the attention of the pilots and mechanics to a new plane coming in from the west. It circled the field several times, and came down to land at the far end. Wheels and tail skid gently touched, and the plane rolled along with scarcely a bump. It taxied up to the hangars and was soon surrounded by an excited group curious to see all the new features of this bird which was to attempt such a tremendous hop. For the word had traveled that here was a new challenger for the long distance record. Here was a machine, equipped with all the latest gadgets,* in which two experienced flyers were planning to leave New York and not touch their wheels again till they arrived in far off India.

Its single huge wing glistened in the sunlight. The pilot and navigator's cockpit, covered with glass, was just in front of this wing and behind the huge radial engine which was even then slowly and smoothly turning the propeller. Just behind the wing in the body of the machine was a tiny window, through which those who were tall enough could peek in and see a small compartment behind the gas tank.

*A term used in referring to the instruments on a plane and the levers or buttons which control them.

The two wheels of the undercarriage* bore massive balloon tires and were further protected by large shock absorbers upon which the weight of the plane rested. The whole plane was painted a brilliant orange.

Switching off the engine, Dad stepped out with a happy smile. "So far, so good."



Then came days of trying and testing. Fortunately they were favored with splendid weather. For a day or two it rained during the morning, but they were able to get in one or two flights before dark.

They took the machine up so that Jack could test his wireless. A Lieut. Connors flew over from Washington with a small, compact set which he hoped would be better than

*The undercarriage consists of two wheels and a frame-work which are attached to and support the body of the plane.

the one they already had in the machine. On one of the tests it seemed as though the ultimate in wireless transmission and reception had been accomplished for an airplane.

The machine went to two thousand feet, the wireless aerial was lowered, and Kiwi stood beside Lieut. Connors, who was manipulating the receiving set in the back of a small truck. Jack and Connors tested their signals both flying away from and toward the receiving set. The dots and dashes of the code came in equally strong either way.

Kiwi put on the head-phones to listen while Connors clicked out a message to those soaring above. Jack had taught Kiwi the wireless code for his name, and soon he was thrilled to hear "H-e-l-l-o K-i-w-i" come down from the air.

However, there were other days when the set seemed not to work so well, and it took hours of tinkering before all the troubles were found and adjusted. The set in the plane was finally moved to a place away from the main tank and the engine.

Then there was the compass to be corrected. Kiwi had not realized that correcting a compass was such a long operation, although Dad had told him that the magnetic compass in an airplane was a very sensitive instrument. There was much iron and steel in the motor, and there were many conflicting forces pulling the magnetic needle from its position toward the north magnetic pole.

To compensate for these forces, small metallic rods had to be added.

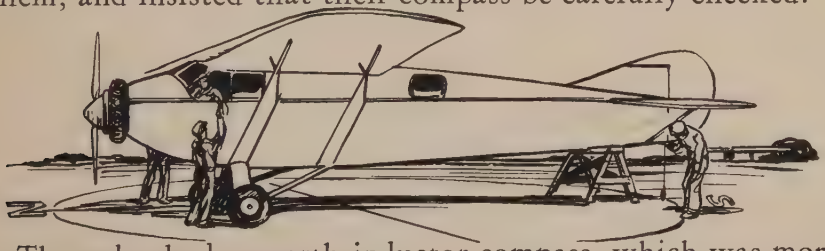
So Kiwi followed as the plane was wheeled out onto a cement circular platform on the ground away from the buildings. Marked on this circular platform were the north,

south, east and west points. Pointing the plane due north, the bits of iron were placed in position in the compass to counteract the attraction of the motor and other metal parts. These bits of metal were about the size of the lead in a pencil, and were of various lengths. After they had been inserted in holes provided in the base of the compass, they were secured in place.

As soon as the needle pointed to the north as it should, the plane was wheeled around till it pointed east and the process was repeated until the compass had been corrected for each direction.

However, they knew that many times a pen-knife or some such similar object in the pockets of a pilot would serve to throw the compass off its proper direction.

Knowing the particularly delicate nature of compasses, the Skipper was very cautious about putting too much trust in them, and insisted that their compass be carefully checked.



They also had an earth inductor compass, which was more reliable, but which had to be adjusted by an expert from the factory.

The ride home from the field in the cool of the evening was usually taken up with long discussions about balanced rudders and whether they did not need more surface on the elevators.

Later on, even the evenings, which Kiwi always looked

forward to, were taken up with test flights. They tried out their navigation lights and landing by flares.

Many evenings Kiwi would go sound asleep in the back of the car until the voice of Jack awoke him suggesting that they rush home for their swim and supper.

During all this time, coax as he would, Kiwi had not been taken on his promised ride. Dad had always answered in that same hateful formula, "We'll see." Why were grown-ups so fond of those two words? He promised himself never to use that expression when he was grown up.

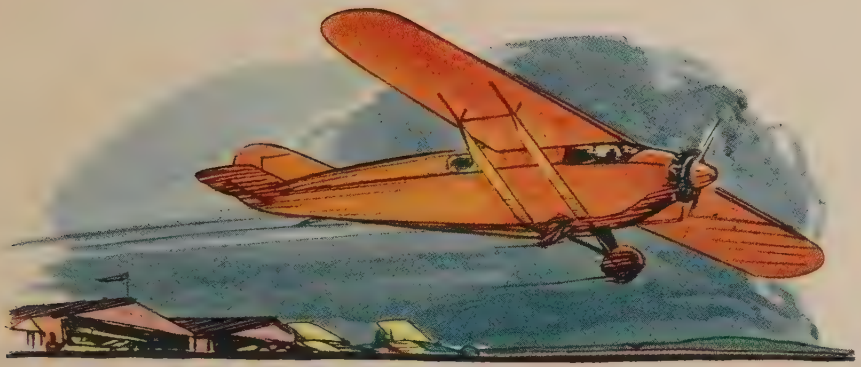
Kiwi had made many friends around the field—the men in greasy overalls who tinkered with the engines, Old Bill who kept the lunch stand at the end of the field and who had made his name famous for having packed the sandwiches for several earlier cross-Atlantic flights. But there was a scarcity of boys of his own age. There were plenty who were older and who seemed to be able to convince the instructors on the field that they could learn to fly.

Kiwi felt a lack of the proper arguments to use. He was sure he could fly if they would give him a chance. But as soon as he brought up the subject, they insisted on talking down to him as if he were a child.

Kiwi felt that it was Old Bill at the lunch wagon who eventually got him his first ride in the new plane. His father and Jack had dashed down for a hurried lunch, and Old Bill said to Kiwi, "Well, how does she handle?" Kiwi had blushed to the roots of his hair and admitted that he did not know. Whereupon Old Bill had turned to his Dad and said, "What, you haven't taken this boy up yet?" And his father had answered, "He'll get his ride—perhaps tomorrow."

That night, after considerable pestering, his father gave him a definite promise that if the next day were fine he'd get that first ride.

Old Bill



A NARROW ESCAPE

CHAPTER II

IN the morning, as Kiwi and the two men rowed away from the little houseboat, clouds hung low over the bay, the wind whipped up tiny whitecaps, and in the bow of the boat where Kiwi sat he felt the wavelets going slap-slap as they drew toward the shore. A sand bank showed yellow against the dark gray of the sky. Jack had received weather reports during the night from the wireless he had installed on their floating home and, with a quick look around, dismissed the threatening appearance of things with a curt, "This will all clear away by noon, I'm sure."

Kiwi's spirits rose, for it had begun to look as though his flight might be postponed again.

On the ride over to the field in the car, Jack said:

"Well, Skipper, do we try out your comic stream-lining on the wheels today? Not many pilots have any faith in them. I cannot see myself where they will add much to our speed."

"Well," replied the Skipper, "I'll admit that they look

like a pair of tin pants, but if they add even five miles an hour to the speed of our bus, that amount, spread over seventy hours, will mean a lot for our chances of arriving in India. At any rate, we'll give them a try today if those mechanics have managed to get them installed."

By the time they drew up in front of the hangar the weather looked more threatening. There was little activity outside the long row of hangars that lined the field. Old Bill had waved from the little window of his restaurant as they passed. Only one machine was standing on the line, and the mechanics were half-heartedly turning the propeller over.

At their own hangar the two smudgy mechanics were still busy with the stream-lining. There seemed little chance that the plane would be ready much before noon.

Kiwi wandered up the line of hangars to see what other excitement he could find. He liked to listen to the flying talk that was practically the only topic of conversation around the field. He had learned to respect those rather dingy buildings, some of which were now in a sad state of disrepair.

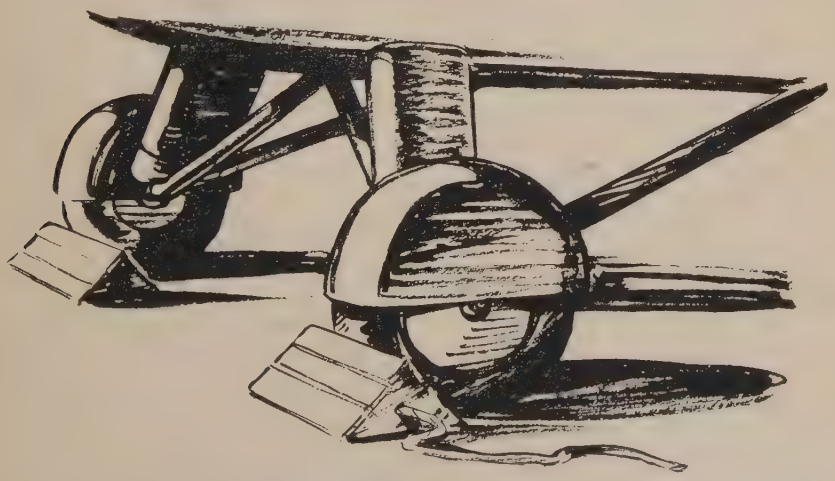
They had served other purposes during the war. Dad had even pointed out the deserted and dilapidated buildings that had been used for barracks, where he had eaten and slept before being sent overseas. He had also pointed out to Kiwi the building they had used as a kitchen, where he had washed dishes and peeled potatoes for twelve hours at a stretch as a punishment for being caught in his bed after the whistle for reveille had blown.

There was little now to make them glamorous—no uniforms to be seen, no sound of bugles, no high hopes for adventurous times across the seas. In fact, they seemed to Kiwi a

bit too spooky even in daylight. He seldom stayed long in any one of them. Dad had given him the feeling that they were crowded with the unseen presence of rollicking young fellows who had once stayed there, who had gone away, and had never returned. They had learned to fly, had mounted into the high heavens, had come to know a world apart—a world of mountainous clouds, with the ground far below blue-gray in the early morning—a silent kingdom of its own, its silence sometimes shattered by the rattle of machine-guns and the bursts of anti-aircraft shells.

Just before noon, as the sky seemed to lighten somewhat, Kiwi noticed their machine being wheeled from the hangar with its new stream-lining in place.

He hurried back and was told that they would soon start. As chocks* were put under the wheels, he climbed up into



*Chocks are triangular blocks of wood placed in front of the two wheels of the under-carriage to prevent the plane from beginning to roll after the propeller has been started.

the cockpit beside his Dad. It was a tiny place with just enough room for two men, crowded with instruments and wheels. Even the seat was a gasoline tank. For gasoline was to be the life of their flight, and every possible ounce had to be carried when the real hop-off came. During most of the tests the tanks were only partly filled.

He watched Dad as he adjusted the levers, and as the mechanic said, "Switch off! Suck in!" Dad leaned out and repeated it after him. The mechanic turned the propeller over several times to get a rich mixture in each cylinder. Then as the mechanic called out "Contact!" Dad threw over his switches, and after a couple of false starts the engine roared into life.

For a few moments, as it warmed up, Dad watched the dial which told the number of revolutions his engine was making. Then, as he felt that all was ready, he opened wide the throttle and the whole plane quivered with the roar of the engine. As soon as his instruments showed him that the engine was developing its full power, he throttled back and motioned to Jack to hop in.

As Jack started to do so, he said, "We haven't the wireless aerial. Connors is splicing on a new piece."

"Never mind," Dad replied, "we won't need it this time."

Dad's invitation to Jack meant that there would be no room in front for Kiwi. But Dad said, "Kiwi, you slip over the tank and ride in the compartment in the back."

There was scarcely room for him to squeeze through in the space between the top of the tank and the under side of the wing.

The chocks were withdrawn, and they went bumping out

across the field to the far side and turned into the wind. Then, as the engine opened up, Kiwi felt the tail lift, they went rolling across the ground and, with a last gentle bump, were in the air.

Kiwi looked out to see the ground apparently falling away from him, and the hangars, houses and fields took on a toy-like appearance. He was now accustomed to this sensation, but he would always remember his first flight and how odd

it had seemed to have the ground slip away from beneath him in this strange manner. He remembered the queer feeling he had had when they made their first turn. It seemed as though they were perfectly stationary, and that the whole earth had suddenly started to tilt up until it stood on edge.

Kiwi remembered, too, his first experience in clouds. The clouds were not very high, and he had motioned to Dad to go up through them. As they started up they were soon surrounded by a fog so dense that even the wing tips faded from sight. They had flown on for what seemed to him an endless time, when Dad shook his head, motioned that the clouds were too thick, and started down.

Wires screamed with the vibration, and Kiwi kept a sharp lookout over the side for the first appearance of the ground. Surely they must see it soon! Then, with a sudden start, he looked over his shoulder to find the earth apparently above him. It took him some seconds to convince himself that this was really the ground in such an unusual place. There above him was this uncanny earth, with the trees lining the tiny roads, half hiding the toy-like houses.

Dad had afterwards explained to him that in trying to get up through the clouds he had lost all sense of direction; that when he had shut off his engine and pointed the plane to what he thought was down, they had fallen sideways rather than straight down, which accounted for the earth appearing in this unexpected quarter.

However, on this first flight in the new machine, he had no such experience; for they had taken off in a straight line and climbed to nearly a thousand feet before any turn was made. Also, being completely inclosed in his little compart-

ment, he felt much more secure. He peered out of the windows, first on one side and then on the other. As they came back over the field, he looked down to see several figures rushing about and another plane taking off.

Dad headed out toward the ocean. It was Kiwi's first view of the Atlantic, which extended far off toward the misty horizon, dotted here and there with busy ships going about their errands. A long trail of smoke marked a big liner heading for the port of New York. Its decks and life-boats showed dazzling white against the dark blue of the water.

Then Dad turned and they headed back toward the field. Suddenly, almost from nowhere, there appeared to Kiwi a plane with silver wings and blue body—the plane that he had noticed taking off a short time before. It came close and tried to fly level with them. Kiwi, fascinated, watched the pilot as he waved to them. He continued to wave, and then pointed to the side of his machine.

Kiwi noticed then in large white chalked letters the words, YOUR RIGHT WHEEL GONE.

The pilot of this machine seemed unable to catch up with them and so attract Dad's and Jack's attention.

As they roared along, Kiwi crossed over to the right side, looked out of his little window, and there hanging down useless was the stream-lining and no sign of the wheel.

His first thought was, "Now Dad will show them what it means to be a good pilot." Then it crossed his mind, "Perhaps Dad doesn't know it's gone."

He scrambled up onto the huge tank and wormed his way toward the front. Jack saw him coming and motioned him back. The roar of the motor drowned out Kiwi's voice as he tried to tell them what had happened. But Jack did finally understand as Kiwi pointed frantically back toward the other plane still trying to overtake them.

Dad gave a startled glance toward the plane and read the message,

YOUR RIGHT WHEEL GONE.

He motioned to Jack to open his cockpit window and verify their predicament. There was a nodding of heads, showing that both understood.

When they got back to the field they flew low, while Dad waved his arm to let those on the ground know that they were aware of their plight. The news of their mishap had evidently traveled, for a crowd was gathering and more and more cars were arriving.

They made no attempt to land for they could see that another plane was about to take off, and a mechanic was even then chalking a new message to them.

They circled around until this plane drew alongside, and against its dark background they read a longer message:

LAND AT MITCHEL. AMBULANCE THERE. NO CROWDS.

Dad waved his arm to let them know he understood. Then he drew over toward the other field and circled around for several minutes, which came to seem like hours. They could see the activity on the ground as every preparation was made to take care of the inevitable crash.

To land a heavy plane such as theirs on one wheel was a thing that had been seldom, if ever, tried before. Kiwi had heard stories of pilots who had landed not knowing one wheel was off, and he knew that the consequences were often very serious. Planes turned over so quickly once the axle caught and dug into the ground. But he also knew that warned as they had been of the loss of their wheel, there was a good chance that Dad would pull them through.

He thought of the hours of work that had been spent on this machine and of the high hopes they had that it would carry Dad and Jack thousands of miles across land and water, and he realized how dashed their hopes would be if there were irreparable damage.

Jack's head appeared above the tank. He motioned Kiwi forward, and then explained to him by gestures how he must brace himself when the final moments of landing came.

Kiwi nodded and felt that here was his chance to show Dad and Jack that he had the necessary courage. He knew that he would prove equal to the test.

As he dropped back into his compartment, he looked down on the field. A group of men had marked a cross with wide strips of cloth in the middle of the field, showing the best place to land. In front of the Operations Office was a little group of people beside the ambulance, with a red cross on its side. As he looked farther along, he saw the red and the

polished nickel of a fire truck. Men were hurrying to different parts of the field with what he knew to be fire-extinguishers.

The stage was set for the try.

As they circled around, heading into the wind, he felt Dad throttle back the engine and the long, slow glide to the field was started.

The spectators on the ground were no more tense than Kiwi, through the long seconds of this dive to uncertainty.

The silence, after the engine had been throttled down, was broken only by the rush of the wind through the struts. He braced himself. He felt Dad tip the plane over so that the left wheel would touch first. As the plane lost momentum, the other axle dropped, caught in the ground, and with a terrific crunching of metal they spun around and came to a stop.

He heard cheers and voices and saw Dad's scared face come through the trap door in the bottom.

"Are you all right, Kiwi?"

Dad lifted him down with shaking arms, and they were at once surrounded by a group of people slapping Dad on the back and telling him what a wonderful job he had done.

They looked the precious plane over. Some damage had been done, but nothing that could not be fixed within a few days. One of the wing tips had been slightly torn and they would need a new propeller.

It seemed no time at all until camera men appeared, and nothing would do but that Dad must pose with Kiwi on his shoulder and Jack smiling by his side.

Within a few minutes planes from the other field began arriving. The pilots were amazed to find all three unhurt,

and were loud in their praise of the marvelous way in which Dad had made the landing. He stood there, cool and collected, smoking a cigarette, the color now back in his tanned cheeks, his wavy chestnut hair very much awry as he took off his helmet and goggles. There was nothing to show of the tense strain he had been under except a slightly drawn look about his gray eyes. He was shorter and less striking in appearance than Jack, but the crowd of pilots singled him out and gave him that praise which only one pilot can give to another.

They made a fuss over Kiwi, too, and he had the feeling that he had been weighed and not found wanting—that in this emergency he had kept his head and done the right thing.

For the first time Dad seemed to notice Kiwi's nondescript clothes as the photographers were snapping pictures. True, very little attention had been paid to what he wore. There had seemed to be so many other more important things to be looked after. But as they were riding back to their old hangar, Dad said, "Kiwi, I think tomorrow would be a good time for you and me to make a trip into town and we will get you a new outfit. If you *will* insist upon getting your pictures in the papers, the folks back home will want to see you in the sort of clothes a young aviator should wear."

"Will it be a uniform, Dad, like yours?" Kiwi had asked.

"Absolutely, if that's what you want," had been Dad's promise.

TROUBLE BREWS

CHAPTER III

THEY awoke the next morning to find that their adventure of the day before had made them famous. The newspapers all told of the fight for life over the flying fields of Long Island. They told of the real courage of the two men and the boy when an unforeseen mishap had so nearly ruined their plane and their chances for a long distance record.

A reporter from one of the newspapers had questioned the mechanics in charge of the plane, and hinted that one of them had been careless in reassembling the undercarriage after the new stream-lining had been put in place. This was most difficult to prove. Certainly Jack and the Skipper did their best to decide from an inspection of the wreckage of the broken axle what the trouble had been.

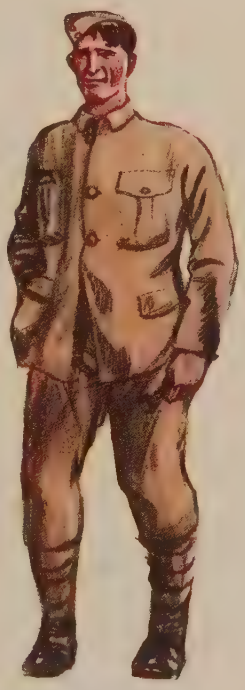
The Skipper had great confidence in the two mechanics, Cosgrave and Billings, who were looking after the plane, and felt quite sure of their loyalty. Jack was not so sure. He had taken a dislike to Cosgrave, and several times had voiced his distrust to the Skipper.

About Billings, who was an English engine expert, there could be no possible doubt. He had been the Skipper's engine sergeant in France. There was nothing particularly handsome about him. He was rugged, square, had large ears and a shock of black hair hanging in his eyes. He was always covered with grease, and grit was ground into his hands. His finger-nails were always outlined in black. He was bandy-legged, and even in an army uniform he looked anything but soldier-like.

After the war Billings had gone back to England and had tried to keep busy, but times were hard and there was an over-supply of skilled mechanics. He had drifted over to America, and had been working for several years at the factory that had built the engine for the Skipper's plane.

When the factory head had received the order for a specially built engine for a particularly long non-stop flight, he had sent for Billings and told him that here was an engine that must be watched through all its construction, from the tiniest nut and bolt, to the moment of its great trial. Nothing must be overlooked. Everything must be tested and re-tested.

"It will make or break our reputation, for I have every confidence in



Billings

Captain McBride who is going to make the try," he said.

Billings' face lighted up.

"That wouldn't be Skipper McBride—er—Captain Malcolm McBride—would it, sir?"

"Yes, that's the man. A pilot with plenty of experience and the habit of being lucky."

"Why, sir, I was with him in France for a year. He'll do it, and there's nobody would like to help him more than me. Is he here? Could I see him?"

"No, but if you want to write him, here's his address. He hasn't come East yet."

So in the Skipper's mail one morning a few days later was a letter from Billings:

"Capt. Malcolm McBride, D.F.C.,

Dear Sir:

I take my pen in hand to tell you that this is your old Sergeant Billings of No. 206 Squadron. You will remember me from the old days in France, especially the time you took me up for a ride and threw the old Bristol fighter about until I lost my false teeth, and had to get leave to go back to London to get a new set fitted.

I am working now for the company that is building your engine, and you can rest assured that I will watch it, Captain, until it is ready for delivery. What I was wondering was, wouldn't you be needing some one to look after it until your hop-off? I would like nothing better than that job. I think I could get a leave to help you if you would write to Mr. Block.

Hoping this finds you "in the pink" as it leaves me,

Yours respectfully,

C. M. Billings. *Ex-Sergeant R. A. F.*"

To say that the Skipper was pleased, is putting it much too mildly. Of course he remembered Billings. Billings had been with his squadron during all his flying days in France. Billings had been the last man he had seen as he left the ground each day, and the first man to greet him as he landed and taxied up to an open space in front of the old Squadron hangars.

"Engine all right, sir?" Billings would ask, even before the Skipper had swung his cramped legs out of the plane.

Billings' personal interest in those engines had been almost motherly. Once, returning from a trip to the "lines," the Skipper had been caught in an almost tropical downpour of rain, which made it necessary for him to land and spend the night at an airdrome about thirty miles away from his own. When he did get back to his own field, Billings had seemed about to take the whole engine apart just to make sure that it had not been mistreated while away.

Here, surely, was the sort of loyalty that would be needed in their new adventure. Therefore the Skipper lost no time in wiring East to make sure that Billings would come with the engine and help them off to their goal.

Of Cosgrave, both Jack and the Skipper knew very little. He had been recommended by the people who had built the plane, and had seemed to go about his work willingly and to do it well. He had apparently obeyed all their orders, and was ready to help at all times. He had even offered to bring over a cot and sleep in the hangar so as to "keep an eye on the plane." This he had done, and was always there early and late.

Jack had said to the Skipper one night, "I like Cosgrave all right, but I can't say as much for some of his friends."

The Skipper had thought little about this until the accident with the wheel. Then he began to wonder if Cosgrave were on the level or if there were something underhanded going on. The whole thing might bear a little watching. But surely no one could have any object in stopping their flight. True, there were others who would like to get the prize money and the prestige it would bring.

Another group of men with a plane almost as good as the Skipper's were at a nearby field, and were getting a good deal of publicity. Every day the papers carried new stories about their plane. However, the gossip heard around the hangars told of quarrels and dissensions between the pilots and their powerful backers. Lawyers had been busy drawing up contracts and counter-contracts. It seemed hardly possible to the Skipper that their activities would carry them so far as definitely to try to interfere with him and Jack.

He dismissed the whole thing from his mind, and with his usual energy began to put the plane into shape with as little delay as possible. His confidence in his stream-lining idea for the wheels was unshaken. However, the few minutes they had been in the air had given them no check on their speed.

Repairs of a temporary nature had to be made quickly at the army field. A new propeller was ordered.

During the two days these repairs were going on, Kiwi had a chance to see and explore this new field. All during the day army planes fully equipped with guns were taking off and landing and practising close V formations over the field. The pilots' uniforms with their silver wings were a welcome change from the golf clothes that most of the men at the other field wore.

True to his promise, the Skipper took Kiwi into New York, where they went to a huge store on Madison Avenue and ordered a tunic and breeches to be made for him. Kiwi secretly hoped that Dad would buy him some field boots such as he wore, but Dad seemed to think that leather puttees would do as well. The salesman in the store had recognized the pair from their newspaper photographs, and they were the center of attraction during their stay.

The man who took Kiwi's measure remarked about his straightness and his sturdy shoulders. He said it would take a week for the uniform to be finished, and Kiwi could hardly wait to see it.

However, the days passed. The new propeller was fitted. The plane was flown back to the old hangar and the tests went on.

It was finally established that the Skipper had been right—the new stream-lining had increased the speed of the plane by exactly eight miles an hour. There could be no question that it was an advantage.

Through one of Jack's friends in the Navy, they met a chemist who was developing a new fuel, lighter in weight than gasoline and nearly twice as powerful. He was anxious for them to try it out on their flight to India. Their experiments with it had led the Skipper and Jack to believe that it was a real discovery, and they decided to test it out on a long flight before the big hop.

The tanks were nearly filled with the new fuel, and early one morning they took off for Washington. It was to be their longest test and would give them a good check on their speed and fuel consumption.

Kiwi was not to go along, but Bert had promised to take him on a sailing picnic that day. Several times Kiwi had seen Bert in his sailboat, with a crowd aboard, sail off up the bay, and he was torn between the desire to go with Bert and the feeling that he did not want to miss a day at the flying field.

Dad and Jack had been gone about half an hour when Bert sailed alongside the houseboat and Kiwi hopped aboard. They spent a glorious day along the sunlit shore of the Sound, and at noon put in to Mattituck where they built a fire on the beach and had their lunch. They roasted potatoes, fried some bacon, and romped with a friendly dog who came to visit them. The shore was wide and sandy, and about an hour after lunch they had a swim in the cool waters of the Sound.

On the trip back the wind died down, and they lay becalmed for nearly an hour. Then a light wind sprang up from another quarter. The sun sank lower in the west. They were still some miles from home. Bert finally gave up trying to sail, started the auxiliary engine, and they slowly chugged up the bay.

It was dark as they drew abreast the houseboat and there were no lights showing. Bert wrote a note and left it for the Skipper, and carried Kiwi off to his own home for dinner.

The day in the open had made him ravenously hungry, and the meal, served in the wide, cool dining room facing the shore, was doubly welcome for its touch of home.

Bert's wife, who was waiting as they drew up to the little dock, had embraced Kiwi with a great squeeze as Bert called out, "How about some food for that boy?" She had had only fleeting glimpses of Kiwi since the day of his arrival.

He had seemed so busy with the men folks. However, she must have had some experience with small boys, for several times pies, cakes, and doughnuts had been sent out to him.

He liked her cheery bustling about the dining room. It called to mind his mother who seemed to be somewhere in his shadowy past. He had missed her terribly after she had gone, and tonight, seeing Bert's wife so busy about the house, brought it all back to him.

Dinner over, they had gone out on the wide veranda in time to see a new moon climb up from the hills.

Bert had telephoned the field, and came back with the report that Dad's plane had circled Washington, had wirelessed that all was well, and had started for Norfolk early in the afternoon.

The minutes dragged. More calls to the field brought them little comfort. The plane had been seen over Cape May, but no wireless call had come from it.

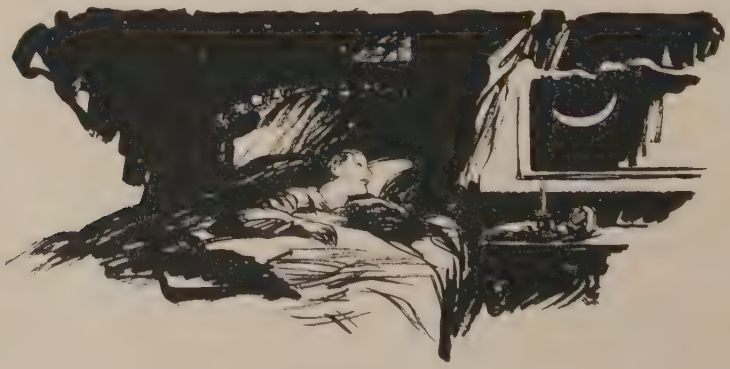
About nine-thirty Kiwi was packed off to bed, and as he lay there he heard Bert at the phone still calling the flying field.

Tucked into this strange bed in a spare room at the head of the stairs, he lay thinking about the plane. The cool white sheets, the chintz curtains at the window, the little knick-knacks on the dresser were unaccustomed and almost forgotten niceties. The wind and the sun during the day had made him drowsy, but he could not sleep for wondering what was happening to Dad and Jack.

It was so calm and peaceful there in the little room. The light breeze that stirred the window curtains only helped to emphasize this calm. Still, somewhere out along the coast, perhaps Dad and Jack were in trouble.

He tried to picture some adventure that might have befallen them. If they had had to land in the water, he remembered that they had no boat. The collapsible rubber one which they were to take on their trip across the ocean had not yet arrived. If they did have to land, he hoped that it might be near some farmhouse which would give them shelter for the night.

As he fell asleep, Bert's voice came drifting up the stairs, repeating the words that had just come over the telephone, "No news."



THE PLANE IS CHRISTENED

CHAPTER IV

KIWI awoke with a dread feeling that something was wrong. It was daybreak—light was just beginning to come in the window. Then he remembered that Dad and Jack had not come back in the plane.

Hurriedly dressing, he tiptoed down the stairs, opened the door onto the porch, and without disturbing anyone made his way down the path. The robins and the grackles were making a great racket in an old pine tree near a little lake in Bert's yard.

He followed the shore, hurried on through the lumber yard, and out to the road. The way to the field was by this time well known to him and he started off at a fast clip. He felt that he must get over to the field and get some news of Dad.

There were few people on the road, and he had gone perhaps half a mile before anyone overtook him. The first car whizzed by, but another, coming along soon after, pulled up beside him and the man leaned out and called:

"Want a ride, Bub? How far are you going?"

Kiwi was not sure that he ought to get into this stranger's car; but the man, dressed in dark clothes, a blue shirt and a cap with a shiny peak, seemed thoroughly friendly. So he hopped in. The car started off with a clatter and rattle as Kiwi said that he was going over to the flying field

"That's right on my way," the man said. "I'm just going over to take out the 4:59."

"Are you a flyer?" Kiwi asked.

"Well, not exactly. As a matter of fact I'm a fireman on the Long Island railroad. But I see lots of these flyers as my train passes by the field. One of these days I'm going to get one of them to take me up."

"I've been up lots of times," Kiwi replied, proudly.

They chattered on, and Kiwi told the man who he was and how his father was planning a non-stop flight to India.

The fireman said, a little incredulously, "Are you going, too?"

Kiwi had to admit, rather shamefacedly, that he wasn't—at least Dad had said he wasn't—"But I'd like to, and I've heard that India is a very nice place. Dad says they have elephants there the same as they have in the circus, except they are everywhere. The people wear turbans and bright-colored clothes, and even the men wear earrings."

The fireman looked a bit skeptical as to that. He had seen such things at the movies, but really did not believe they were true.

As they turned the corner into the road that led past the field, he stopped and let Kiwi out. As Kiwi thanked him for the ride, he said, "Tell your Dad I'm coming over for a ride one of these days."

"I don't think he'll take you," Kiwi answered. "You have to tease him a lot for rides."

As the car started away, it came over Kiwi that he did not know where Dad was just then. He might be down, almost anywhere along the coast.

There seemed to be no one at the field. He followed the road down toward their hangar, clambered through the fence, and came up through the tall grass at the back.

He heard voices inside the hangar and stopped. It might be Dad. He heard Cosgrave saying something, and then a strange voice broke in, "But you are going it too fast, old fellow. They'll catch on to you. Wait till just before they hop. That's time enough."

This sounded funny to Kiwi, and he wondered who could be talking to Cosgrave in this manner. He hurried around to the front, opened the little door and went into the empty hangar, making his way to the room partitioned off at the back. The wind carried the small front door to with a bang, and the voices he had heard suddenly ceased. As he opened the inner door, Cosgrave was just standing up and starting for it. Kiwi looked at the other man, but it was no one he had seen before. He was neatly dressed and had a tiny black mustache.

Cosgrave said, in a strange voice, "Oh, hello, Kiwi. What are you doing around here so early?"

"I came over to find out what had happened to Dad."

"Oh, he's all right. We got a message during the night that he had landed near Trenton. Just some little vibration trouble with the engine, which they'll fix up first thing this morning and probably be back here by noon."

After a long pause the stranger lit a cigarette and said to Cosgrave, "Well, I'll be running along. You phone me later, will you?" And with a backward glance at Kiwi, he walked out.

About two o'clock that afternoon the plane returned.

Dad said the plane had performed wonderfully until after they left Washington. They had been able to form a good idea of its speed and its new fuel consumption. They were flying a compass course over the clouds off Norfolk when a slight vibration had started in the engine. Since it had not been bad enough to worry them, they had kept on. However, as they had continued north, near Cape May, it had grown worse, and although it was dark when they reached Trenton, they decided to risk a landing at a strange field rather than strain the engine-bearers. They tried for some time to locate the airdrome, and finally concluded that they had better try to land on a large, flat field some miles out from the town. With the aid of one of their parachute flares, which they dropped, they had landed with little difficulty.

With flashlights they were able to locate the trouble. Two bolts, holding the engine to its frame, had become loosened and the cotter-pins from both were missing.

They had attracted the attention of a passing motorist who took Jack to a telephone, while Dad stayed with the plane.

Jack had tried, without much success, to telephone through to Bert and to the field, and finally had sent telegrams instead. They tied the wing-tips of the plane to some fence posts, and a State policeman offered to watch it till morning. The policeman also directed them to a place where they spent the night.

In the morning, it was the work of but a few minutes to put the plane into good shape, and with a parting wave to the policeman and a few people who had gathered to see them take off, they left. Without further difficulty they had landed at their own field.

This long test had reassured the Skipper and Jack on many points, and there seemed little more to do to the plane. The letters and the numbers of their license, NX-953, had been painted on the top of the right-hand and on the bottom of the left-hand wing and on the tail. The man who had done this had asked about a name, but Jack and the Skipper had been unable to agree on one.

The backers of the flight, having had word that the plane was nearly ready for the take-off, wrote the Skipper that they would be at the field by the end of the week. One of them suggested in the letter that there should be a formal christening. It would help the publicity. The fact that he had a very attractive daughter who photographed well may have put the idea into his head.

Kiwi's excitement ran high at all these new preparations. His new uniform had been delivered, and he had strutted about the houseboat with it on. Both Dad and Jack were immensely pleased at his new appearance, and Jack promised to go with him to the barber for a last trimming up.

The makers of Kiwi's uniform had added a touch of their own, and had sewed on a small pair of embroidered wings. But on this point Dad was firm. The wings could not be worn. "For," he said, "you are not a pilot, Kiwi, and until you have learned to fly, no wings."

This started Kiwi off anew on his demands to be taught to fly. He had worked on Jack on every possible occasion to get a promise of instruction from him. But so far no definite promise had been made. Jack, at odd times, had been teaching him the wireless code. By now Kiwi knew it by heart, and every evening, when possible, Jack would get him to learn the sing of the letters. Tacked over Kiwi's bed was this card with the dots and the dashes and the letters they stood for:

Continental Wireless Code

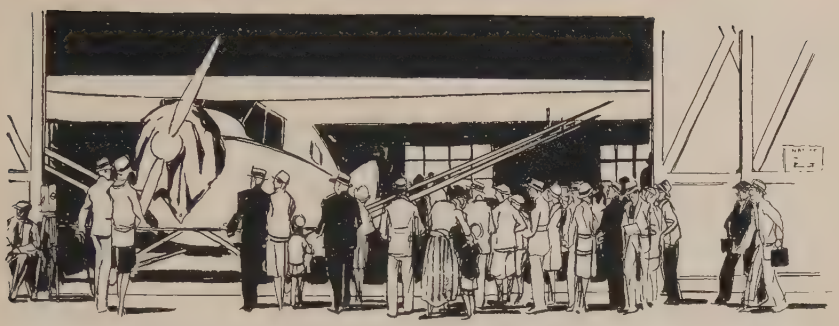
For Use of Planes and Ships at Sea

A	•—	N	—•	,	•—•—•—
B	—•••	O	———	.	•• •• ••
C	—•—•	P	•——•	?	••——••
D	—••	Q	——•—	1	•————
E	•	R	•—•	2	••———
F	••—•	S	•••	3	•••——
G	——•	T	—	4	••••—
H	••••	U	••—	5	•••••
I	••	V	•••—	6	—••••
J	•———	W	•——	7	——•••
K	—•—	X	—••—	8	———••
L	•—••	Y	—•——	9	————•
M	——	Z	——••	0	—————

On Saturday afternoon, the party arrived with the attractive daughter, her mother, and a bottle of what they hoped was pre-war champagne. The field was crowded. A small platform had been built and the machine wheeled up to it so that the attractive daughter could just reach the big propeller. Both Billings and Cosgrave had spent the whole morning cleaning and polishing the plane until it shone. Jack, the Skipper and Kiwi were all in their uniforms. As they stood on the little platform in the bright sun, to the tune of clicking movie cameras, the bottle of champagne was brought down smartly on the metal propeller, and the young girl said, in a clear voice:

"I christen thee 'Dauntless', and wish thee all the luck in the world for thy big adventure."

The crowd cheered, and the golden liquid foamed and bubbled as it ran down the long blade of the propeller. Everyone was happy. Any doubt of their success seemed out of place on this bright, sunny afternoon. Dad and Jack's confidence in their machine and in themselves radiated from them.



READY TO HOP

CHAPTER V

THE christening was over, and the publicity that it brought had added interest to their flight. In the days before the christening they had scarcely ever been bothered by crowds around the hangar.

Now things were changed. Whenever the plane was inside the hangar, the doors had to be kept closed, or ropes stretched, to keep the idle curious from interfering with the work in hand. Rumors were continually being broadcast that a surprise take-off was imminent, which brought throngs to the field at all hours of the day and night.

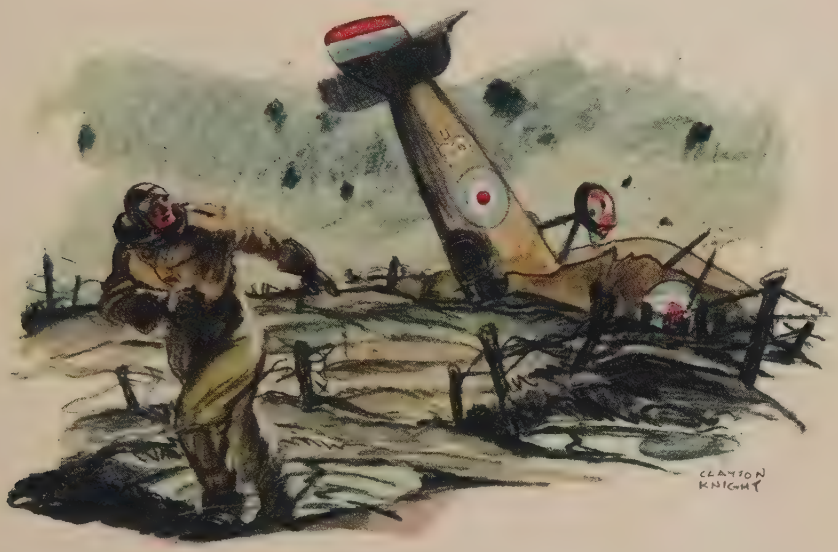
Reporters on special assignments were always bothering the Skipper and Jack with questions about the performance of the plane, how long they expected it would take them to get to India, and about incidents in their lives that the reporters thought would be of interest to the public.

From one source or another they found out about the Skipper's war record—how he had gone to a ground school in this country, had been sent to England to finish his flying training, and, this completed, had waited in England for

weeks for an assignment to an American Squadron; how the shortage of planes on the American front had prevented this; how the British, who had spent time and money in training American pilots, found themselves with plenty of planes and a scant supply of their own men to fly them; how the British government had finally asked and received permission from the American authorities to send some of these American pilots to France to work with the British flying corps; how the Skipper had gone out under this arrangement and fought with great distinction with his British comrades.

The newspaper men had also looked up stories about the Skipper that had been printed in his home papers during the war. These they reprinted—stories of the miraculous way in which he had come through months of hard flying with scarcely a scratch; of his spending a couple of weeks at one of the base hospitals in France, recovering from a slight wound made by a machine-gun bullet as he was diving on a balloon near Armentieres, and then, without waiting for the usual sick leave, of his hurrying back to his squadron and

plunging once more into the daily round of patrols, shooting down two enemy planes the very day of his return.



During one fight, when he was within a hair's breadth of adding one more enemy machine to his score, his engine had stopped in the midst of a zoom, and the enemy, realizing he was getting the worst of it, had streaked for home, leaving the Skipper several miles behind the enemy lines with just enough altitude to glide down to No Man's Land, where he had scrambled from his machine into a shell hole. There he crouched while the enemy artillery battered his plane to pieces with shell fire. Getting his direction, in the failing light, from the line of enemy balloons, he had made his way, as soon as darkness came, to his own lines.

Stumbling across the torn and broken country, he had come across a British Tommy badly wounded, and had dragged him to safety. For this and other of his exploits he had been awarded the Distinguished Flying Cross, one of the highest British decorations given to airmen.

Then, when the Skipper's leave to England had come around, after six months at the front, he, with several others, had been summoned to Buckingham Palace to be decorated by the King. He had nervously awaited his turn at the end of a long red carpet which led to the platform where the King stood. He had walked forward and saluted, more frightened than he had ever been in the midst of a scrap in the air. The King had pinned on the cross, had asked him one or two questions about his flying, had thanked him for his splendid services as an American with the British army, and before he knew it the interview was over and he was on his way out.

The newspapers printed all this, and drew on their imagination for a great deal more.

They gave a full description of Jack's training and work with the Navy and his flying ability. But most of all, they devoted many paragraphs to his development of a device which was a really practical drift indicator. This ingenious instrument, upon which they were going to rely during their long hop, seemed to solve the problem of correcting their

drift, even in clouds and fog. Heretofore, pilots attempting to navigate over long distances of fog-obscured areas had found themselves unable to tell whether or not the wind was carrying them sideways off their course.

The story of Kiwi's life and his adventures also became public property.

Billings was not much help to reporters. Naturally taciturn, he became even more so with newspaper men, and was almost surly in his refusal to help them out with their stories.

Cosgrave, however, liked the chance to talk, and did so on every occasion. The Skipper finally warned him he had better say little or nothing at all, and that if there were any information the papers should have, he, the Skipper, would give it.

One evening the Skipper had taken Billings back to the houseboat with him, and during supper he tried to draw him out about Cosgrave and what he, Billings, thought of him.

During the conversation, Kiwi suddenly remembered the things he had overheard, on the morning that Dad and Jack were at Trenton, in the back room of the hangar. He told Dad about it.

Dad frowned, and for several minutes seemed deep in thought. Then he said, "Billings, I don't want to be unfair to Cosgrave—he may be all right. We have very little proof that he isn't. But I am going to ask you to keep an eye on him. Watch his work on the plane, and if you see the slightest thing that looks suspicious, I want you to come and tell me."

Billings had promised to do this, and the Skipper tried to dismiss from his mind the thought that there might be forces

working against them other than the natural ones which they expected to have to contend with.

The Skipper and Jack pushed ahead with their preparations. Their collapsible boat was delivered and they tested it. When folded, it took up very little room. Attached to it was a metal cylinder containing compressed air, and it was the work of a moment to open the valve in this cylinder and inflate the boat. With it were two tiny oars and a watertight pocket in which could be packed medical supplies and condensed food.

They inflated the boat, and Dad and Jack and Kiwi navigated their strange craft about the harbor, returning to the houseboat all too soon to please the boy who enjoyed this novel way of traveling.

The time before the hop-off was getting short, and there was still one detail that gave them considerable concern. They could not seem to prevent the vibration of the engine from interfering with the proper functioning of their instruments. It was annoying to have one or the other of their dials go wrong.

Jack finally decided to remove the whole thing, and regroup the instruments so that all those which had to do with navigation would be in one part of the board and the engine instruments in another. The compasses, the drift indicator, the dial which registered their turn and climb were placed on one side, and in front of the Skipper were the oil-pressure, engine temperature, tachometer or engine revolution counter, the fuel gauges and the dial which showed their altitude.

The entire instrument board had to be protected in some way from the vibration, and it was Billings' scheme to set it

on four rubber blocks which he cut from ordinary rubber bath sponges.

All this took hours of Billings' time, for each instrument had to be disconnected and replaced. However, late one night it was finished, and the Skipper decided that, inasmuch as the time was getting very short, they would test it at once.

As the plane was rolled out of the hangar, the news spread that they were about to go, and the crowds gathered. Their announcement that it was only a test flight was not believed.

When they were ready to leave the ground they found the field covered with people, and try as they would they could find no open space long enough to make the take-off safe. It was a warm summer night, and apparently everyone for miles around had driven to the field. The Skipper and Jack eventually had to abandon the night test and wait until morning.

A plan had been forming for some time in Kiwi's mind. He had a queer sinking sensation every time he thought of Dad and Jack going off without him. He saw no reason why he, too, should not go when the plane left.

The stories he had heard of India made him want to land there, too. He liked to think of the warm, tropical days and nights in that strange country. Bert had brought him a book

of stories about India which had thrilled him. These stories told of hunting wild animals from the backs of enormous elephants. He liked to imagine himself seated in one of the howdahs—the canopied, chairlike saddle strapped to the back of a richly decorated elephant.

He remembered one story of a playful elephant, said to be over a hundred years old, who pretended to be thoroughly frightened every time he crossed a stream of water for fear quicksands would suck him down.

He would picture himself wandering through the narrow streets of the cities, with vistas of temples ahead—their domes shining in the sunlight, covered with layers of pure gold that had been added to them through the centuries, until, on some of the oldest temples, the gold leaf was a quarter of an inch thick.

Kiwi had asked Dad a number of times to take him along, but Dad had always dismissed his request as being out of the question. However, in the darkness and confusion of that night attempt, Kiwi thought he saw how it could be accomplished. He was sure that if there were as much confusion at the actual take-off, it would be a simple matter for him, in the darkness, to crawl under the plane, open the trapdoor in the rear compartment, and slip in unobserved.

Kiwi realized that Dad would be upset about his disobedience, but he felt sure that he could make himself useful on the trip, and that both Dad and Jack would be glad he had come.

The more he thought about it, the more he knew he couldn't bear to be left behind, and the more determined he was to go with them. During the next two or three days, as Dad and

Jack were making the final test flights, he worked out in his mind all the necessary details.

Weather reports were taking up more and more of Jack's time, but Kiwi kept up with his wireless practice. He could now send twelve words a minute and receive almost ten.

About eleven o'clock one night, as Jack got his weather reports and checked them up from his chart, he called the Skipper over and said:

"Things look as favorable now as they have for some time. There is a storm near Chicago moving this way, but I don't think it can possibly arrive until about eight in the morning. There is another one directly in our path in about the middle of the Atlantic; but from the reports I have it is moving northward and should be well out of our way by the time we get there. If you say the word, I'm for starting in the morning."

The Skipper replied, "The plane is ready. The weather is up to you, Jack. Let's go!"

Telephone calls were put through to the field and to the official who was to seal the barograph* before they started. They sent word to Old Bill at the lunch wagon to pack the food and to get the thermos bottles filled.

About twelve-thirty, when everything was packed and ready and they were about to start for the field, they got another report from the weather man. In the two hours that had elapsed since the previous report, conditions had changed for the worse. The mid-ocean storm which they had known about, had altered its course and was heading in toward Newfoundland.

*Barograph—An instrument which records on a chart the variations in height above sea level.

Jack and the Skipper talked it over and decided they had better put off the attempt until there was a better chance of having favorable conditions. This meant more telephone calls to tell of their change in plans.

When they talked to Billings on the phone, he said that the field was already covered with people and cars, and that it was more than likely the crowd would refuse to believe the take-off had been postponed. He said the plane was in perfect condition, and that he believed he would stay at the hangar the rest of the night.

The Skipper

It was a great disappointment to Kiwi, for his excitement had risen to fever pitch. However, he was packed off to bed, and for the next few days all their plans waited on favorable news from the weather man. Conditions over Long Island seemed perfect for the take-off. The moon was just approaching the full.

Kiwi, for the first time, realized how many others were helping in this tremendous undertaking. Wireless operators on many ships plunging across the ocean were flashing their news of conditions as they found them at sea. Other wireless operators in lonely places were sending their data of wind velocities, rain and sleet. All this information was being gathered and carefully analyzed

for these two men who would soon come to know the vagaries of nature at first hand.

Kiwi was already in bed and asleep one night when an unusual bustle about the houseboat awoke him, and he sensed that something was up. Word had come through that the path was open for the great dash across the Atlantic.

Preparations to start were again made, with innumerable last things to be thought of. Kiwi was able to pack a tiny lunch and stuff it into his pocket unobserved.

They were rowing ashore to pick up Bert when Dad said to Kiwi:

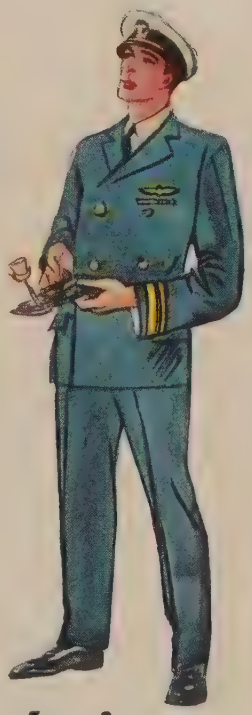
"Now, boy, after we leave, you will be taking your orders from Bert. Everything is taken care of, and he will look after you until we come back. See that you always do what you know I would want you to do."

Kiwi smiled, sheepishly, but could think of nothing to say.

The ride over to the field seemed to take hours. Neither Dad nor Jack talked much, but Bert managed to say to Kiwi:

"Well, they will soon be off, and then you and I will sit and wait for news of their arrival."

As they drove onto the field they saw cars parked everywhere, and crowds thick about the entrance to the



Jack

building. They pushed through them, and there in the lighted hangar stood the great bird ready for its flight.

It had been planned to start from the long runway on the adjoining field, and the greater part of their load of fuel had been stored there in readiness. Before the hangar doors were opened, all their kit had been stowed in the plane, even Kiwi finding an opportunity to hide away his little package of lunch in the rear compartment.

At last the hangar doors were opened, and ropes having been stretched to keep the crowd back, the plane was rolled out, its tail lashed to the rear of a truck and, followed by the crowd, it began its mile-and-a-half journey to the other field across the rolling ground. Its mighty wing bobbed and rocked about as if anxious to be off and away.

The moon was partly hidden by a thin layer of clouds so that the night seemed unusually dark. There was practically no wind.

Arriving at the far end of the runway on the other field, the tail of the plane was set on the ground, and flood lights were temporarily placed which threw a ghostly glow over the "Dauntless."

Cosgrave and Billings started at once to pump in the precious supply of fuel. Jack went back to the hangar to get the last minute weather reports, while the Skipper, easily the coolest person in the crowd, chatted with the backers of his flight.

As the hours passed the crowd grew, but this time they were being held back behind lines by the police.

Old Bill from the restaurant came puffing up with the thermos bottles and sandwiches, and with a sly wink to

Kiwi handed him a couple of oranges, saying, "You may need these, Kiwi."

Kiwi became more and more confused. He began to wonder if it were going to be as easy as he had thought to stow away when the plane left. He had not counted on those blinding lights. But he stuck close to Dad and hoped for the best.

About four o'clock the tanks were filled. Fifteen spare cans, holding four gallons each, had been stowed in the rear compartment and lashed tight. The barograph was put aboard and sealed by the official from Washington.

Billings, in a fever of excitement, decided they'd better give the engine one more try; so the canvas tarpaulin over the engine and propeller was removed and the engine roared into life. Billings ran it long enough to satisfy himself that it was working perfectly, then turned it off.

The heavy silence that fell was almost oppressive. A meadow lark sprang into the air, with the exultant little song they sing at dawn. Everyone was tense with the thought of the great test that was soon to come.

Jack came back from the hangar with the report that conditions were as favorable as they had been at any time.

They waited for the daylight.

There was the sound of a motor overhead, and a plane with a news photographer aboard swept over them.

Still the darkness lingered.

The sun by now should have been lighting up the eastern horizon. Instead, came a patter of raindrops, and Billings rushed to cover up his precious engine and propeller to protect them from the dampness.

It rained harder. Many of the crowd, seeing the engine covered up, decided that the flight was off for that day.

A little group stood under the protecting wing of the plane and waited to see how bad the storm would be.

Dad turned to Kiwi. "Kiwi, you had better look up Bert and go back to the hangar with him."

Kiwi's face fell. Plainly disappointed, he nodded his head and disappeared into the darkness toward the place where Bert's car had been parked.

The crowd thinned with the usual remark that this was another false alarm.

As suddenly as it had started, the rain stopped.

Jack, who had expected these local showers, said he thought it would clear up soon. Not long after, a faint, gray light appeared in the east, telling of the approach of a new day.

The Skipper was impatient to get away. He told Billings to take the cover off the engine, and he and Jack made a last examination of the whole plane. They looked at the shock-absorbers, noting that with the heavy load there was very little play left in them. The Skipper said, however, that there was enough.

By this time Billings was ready to start the motor. Before the eyes of the small group who had waited through the rain, Jack and the Skipper got into their flying suits.

The big moment had come.

In the excitement of the last minute preparations Kiwi had been missed, and although Dad asked several of the men about the plane if he had been seen, there were conflicting rumors. Some thought he had gone back to the hangars; others were not sure but that he had found shelter in one of the cars.

DAUNTLESS
N·X·95

Precious minutes were passing. The Skipper felt that the time had come to go and that saying good-bye to Kiwi would be too much of an ordeal for him. So he turned to Bert and said huskily:

"Say 'good-bye' to Kiwi for me. I am trusting you to take good care of him. As far as I can see, everything has been provided for, and I know he will be safe in your hands."

Fearing to trust himself to say more, he hurriedly shook hands with his close friends, gripped Billings' hand hard and slapped him on the back. Then he climbed up into the cockpit, where Jack was already waiting, and the motor was started.

As the engine was warming up, the crowd could see through the glass window the Skipper laughing nervously at some remark of Jack's. Then he opened the throttle and the huge engine made a tremendous uproar as he gave it a final try.

Billings stood at one side, his practised ear listening for the slightest skip in its measured beat.

The Skipper throttled back the engine, leaned out of the window, and motioned for Billings. As he came up, the Skipper said, "How does it sound? All right?"

Billings, who had listened to many engines in his day, who had seen many men trusting their lives to them, and who had heard that same question asked many times before, felt a lump rise in his throat as he realized the tremendous responsibility that rested upon him and upon his answer. He gulped hard, and then choked out, "All right, Captain—and the best of luck to you," waved to Jack, and motioned to Cosgrave to pull out the chock from under the wheel on his side.

Billings and Cosgrave stepped back, and for a few moments

that were awful in their suspense they waited for the flight to begin.

The engine opened up gradually, took hold, and the plane slowly started to roll along—the slow roll which was to start the Skipper and Jack off on an epoch-making flight that would carry them across the wide Atlantic, over the Mediterranean, and on to India. The engine had started, and for seventy hours it would have to keep up an uninterrupted flow of power.

The plane gathered speed, rocking gently as the tail left the ground.

Billings and Cosgrave had leaped onto the running-board of a fast car and were speeding after it, watching it gather momentum for the take-off.

Camera men took hurried pictures and scampered out of the path of the approaching plane.

The end of the runway was getting perilously near when the first sign of lift came. The Skipper was evidently coaxing her into the air, and the first lift was a bit too soon, for she settled back to the ground for a moment, seemed to gather new energy, and then rose surely from the field just as they reached the brink of a little ravine.

They were off!

In the early morning light the plane was hard to follow. It could faintly be seen lifting its way upward.

Other planes, now that the "Dauntless" was up, soared alongside the big ship as it carefully made a turn and headed

for the east and the rising sun. The entire group came back over the field at an altitude of about a thousand feet.

The crowd hoped that there would be a last fluttering good-bye from the cockpit, but both men were too busy to do more than glance out.

The flight was on!

Billings and Cosgrave returned to the old hangar. Its vast emptiness oppressed them so that they could hardly speak. They would have to wait hours and hours to know what all their work would accomplish. They looked forward to the long wait with dread.

Bert came up in a car and asked if they had seen Kiwi. Surely by now he would have returned to the hangar. But no one had seen him since the rain storm that had seemed, for a time, to blot out the Skipper's chances for a take-off. Bert hurried back to the other field with the hope that he might still be there.

In the small room at the back of the hangar, Connors was busy with his wireless set. With the earphones on he bent over his instruments at the table and tried to pick up the first message to come back from the plane. From time to time the click of his sending key could be heard through the partition.

Both Billings and Cosgrave were absentmindedly picking up the scattered evidences of the hurried departure from the hangar. They had closed the big doors, when Billings, very tense, suddenly swung around and confronted Cosgrave.

"Cosgrave, you and me have been working hard on this job for a long time now, and there have been times when I thought you were up to some crooked business. The plane is off and away. If anything happens to those boys that I can trace to you, I'm going to make you the sorriest man that ever walked onto this field."

Cosgrave turned a bright red at all this, but said nothing for a few minutes, while Billings glowered at him. Then, seeming to come to a decision, he said:

"Well, Limey, I think I can trust you. I don't want you to mention this to no one, but when I have told you I think you will understand.

"At the beginning I was offered money—and a lot of it—to try and stop, or postpone, this flight. I was in a jam and needed money, and I thought I could do something—nothing serious, you understand—that would look accidental. But the longer I worked for those two men, the more I realized that I couldn't go through with it.

"Then when the Kiwi started flying with them and came so close to getting cracked up the time they lost the wheel, I phoned the people who were trying to buy me and said, 'Nothing doing.' And Billings, you can believe me or not, but since that time I have worked even harder than you to make this flight a success. There is nothing about that plane now, as far as I know, that isn't in perfect condition."

Billings felt his anger rise during Cosgrave's confession,

and for a little time he could think of nothing but punishing the man. With his jaw set hard, he looked straight into Cosgrave's eyes, trying to see through to his very soul, to discover if all he had confessed was the truth. Cosgrave's gaze never wavered, and Billings at last decided that Cosgrave had done no harm and all was right with the plane.

THE FLIGHT IS ON

CHAPTER VI

TO the two men in the cockpit of the monoplane, the tense drama of hours had been packed into those few seconds of the take-off.

As the Skipper very carefully opened the throttle, the engine took hold and the plane gathered headway. The soggy condition of the field after the rain seemed to hold them back. They could feel the wheels of the undercarriage sinking deep into the sod and the mud. Jack was conscious for a fleeting second of the lights of parked cars reflected in numberless puddles along the course.

The roar of the engine increased. They rolled faster and faster. The Skipper sat tense watching his instruments, with an occasional quick glance ahead.

They were rolling still faster now, gathering speed, and from the corner of his eye Jack saw the Skipper push the control stick forward to get the tail off the ground. Striking uneven spots in the field, the big plane rocked gently. Still it seemed to drag. But always their speed increased over the ground.

They were half way down the field, with still not enough momentum to lift their heavy load from the earth.

Three-quarters of the way down the field, and no tendency to spring away from the rain-soaked ground!

Jack glanced quickly at the Skipper's face to see if all was well.

The Skipper was looking straight ahead in a fascinated manner as the end of the runway approached, and the shallow gulley that lay beyond. Too late now to shut down the engine and make another try. The next second would decide.

The Skipper pulled gently on the stick, the plane lifted ever so slightly, cleared the ground, dropped back again for one last little bounce—and then it was almost as if the intense concentration of those two men helped to lift that tremendous load into the air and hold it there.

They whizzed off the end of the runway and soared just above the shallow gulley which had been the grave-yard of an earlier attempt.

Once in the air, the plane gained altitude very slowly. Just ahead was the line of hangars, one of which had housed it for so many weeks. The Skipper turned the plane slightly so that they might pass between the hangars and a line of trees. The red obstacle light on top of the highest hangar was methodically flashing its warning. They cleared it safely by several feet and continued their climb.

By the time they had gone a mile farther, they had height enough to make a gradual turn and head into the rising sun.

As they came back over the field, escort planes came alongside, and in one of them a news-reel photographer was steadily grinding the crank of his machine, getting a record of their start.

The sun rose from behind a heavy bank of clouds and touched them, lighting up the orange wings till they seemed a blazing flame. The land beneath still lay wrapt in a blue haze. To their right a larger bank of threatening clouds was even then sprinkling its waters into the distant ocean.

The escorting planes came closer, looking tiny and unsupported, their whirling propellers perfectly visible against the blue-gray background.

By the time the "Dauntless" had reached the end of Long Island, all of them had turned back save one, and there its pilot, with his hands high in the air, sent them a last handshake and a wave, banked his machine sharply and left them.

It was like the last wave from a ship's pilot as he sends the vessel off to sea alone.

By this time they had fifteen hundred feet altitude and were beginning to breathe easier. Jack leaned over to the Skipper and said:

"We're off! How does it feel?'

The Skipper smiled and replied:

"She handles pretty well, but it did seem ungodly tail-heavy at the take-off. The sooner we can get those small cans in the rear compartment emptied, the better I'll like it. We'd better not try it yet, but as soon as we use some fuel out of the main tank we'll empty a few of those spare cans and heave them overboard."

Setting their course across Long Island Sound, they could see ahead the dim line of the Connecticut shore, and Jack lowered their wireless aerial and clicked his first message to Connors. It was short and to the point.

"Everything going well. (signed) DAUNTLESS"

About seven o'clock they were over Cape Cod and could see many boats and steamers crawling over a smooth sea.

Jack sent another message to Connors reporting all well, then clicked off in code:

"Signing off to empty fuel from spare cans."

The Skipper nodded as Jack explained that he would now attempt the replenishing of the main tank. He carefully climbed from his seat next the Skipper, and had only just started to squeeze up into the space between the top wing and the tank when he stopped with a start. Peering at him over the top of the tank was Kiwi, with a self-conscious smile on his face.

The Skipper partly turned to see why Jack had dropped back into his seat. Jack clutched the Skipper's shoulder, leaned over and shouted:

"*Cripes!* The Kiwi's with us!"

For a few seconds none of the three moved. The Skipper was plainly unbelieving. He thought that Jack must be dreaming. Coming out of his trance, Jack motioned to Kiwi to come forward.

Kiwi wiggled his way over the tank, still wondering how he would be received. He shyly put one hand forward and grasped Dad's shoulder with as hard a squeeze as he could muster.

Dad realized then that Kiwi's presence was an actual fact. Here was a stowaway, another life that must be reckoned with in this adventure. He would have preferred not having this additional responsibility. There had been enough details to think about. But there was nothing that could be done, and his plans must be adjusted to cover this new situation.

CLAYTON
KNIGHT

Kiwi could only say in a shy voice, "I can help, Dad. And I didn't want you to go without me."

Jack slipped back into his seat, put on his earphones, and sent out Connors' call letter. As soon as he got an answer, he clicked off a message that the Kiwi was aboard, a stowaway, and that he would be put on the usual bread and water diet of all stowaways and made to work.

The Skipper then said to Jack, "Here's your helper for the gas."

And to Kiwi he said, "Well, boy, you're in for a long ride this time."

Kiwi went to work with a will—unlashed the cans, unscrewed the tops, and passed them over to Jack who, standing on his seat, poured the fuel into the main tank. They disposed of five of them. As Jack opened the sliding panel of glass beside him, a terrific stream of air blew into the cockpit, and he hurled each can in turn as far out and down as he could, so that they would not be carried back into the tail. Kiwi looked out of his little side-window to see them tumbling into space, turning over and over, the light glinting on them as they fell.

Beneath them the wind must have been freshening, for there were signs of whitecaps on the level floor of the ocean. Dimly to the left could be seen the shore line.

Shortly after eleven o'clock, Jack picked up signals from the *S. S. Mauretania*. She was notifying the shore stations that she believed she had sighted the "Dauntless" a short time before.

A little later they were passing over land, which Jack said was the shore line of Nova Scotia.

Kiwi commenced to feel hungry, and busied himself peeling one of Old Bill's oranges, most of which he passed over to Dad and Jack.

Jack took over the controls and flew the plane a couple of hours while the Skipper stretched himself and carried on a halting conversation with Kiwi.

He learned how, when he had sent him to find Bert, Kiwi had made a hesitating search, had circled back to the plane, and, without being seen, had climbed into his place in the rear compartment.

Dad tried to look stern, but Kiwi could feel that already he had been forgiven.

The plane hummed along, and they felt almost as though they were on a picnic.

About twelve-thirty they passed Halifax, and Jack wirelessed that all was well.

Soon they passed over some broken clouds and found the air very bumpy. They were picked up and carried sometimes fifty feet before being dropped. Jack had his latest weather map tacked to a small board in front of him, and he remarked that they might expect this sort of weather, or worse, before they reached Newfoundland.

They noticed a slight haze coming up before them, and for the next hour they ran through intermittent showers.

Giving the Skipper his course to fly, after a careful checking with his drift indicator, Jack called to Kiwi and they began the transfer of five more cans of fuel to the big tank.

With the air as bumpy as it was now, this was no light task. Once, when the plane gave a sudden lurch and reared upward with one of the bumps, Kiwi lost his balance and

tumbled over on the floor of his compartment; and before he could pick himself up and rescue the can some of the precious fluid had been lost. After that he was more careful, and braced himself securely against the sudden lurching of their ship.

They were twice as long making the transfer this time, but it was finally accomplished, and Jack heaved the empty cans overboard. This time Kiwi was unable to follow them on their downward flight. Often they disappeared from view within a split second of being hurled out.

The broken clouds were making the Skipper's job of piloting much more difficult. Trying to keep the plane on an even keel and follow their set course took all his attention.

Intermittent showers beat down upon them, and big raindrops were carried back along the under side of the wings in small, hurried rivulets. To Kiwi in the back, with his nose pressed against the window pane, it seemed like summer downpours that he had witnessed from their little cabin back home.

He had become accustomed by now to the smooth roar of the motor, and was not so conscious of the strain on his eardrums. Through holes in the clouds he could occasionally see the ocean tossing black and green far beneath them.

Jack wanted to make sure of getting a last bearing on land before they swung off to the open Atlantic, and asked the Skipper if he could not drop a little lower under the clouds so that Newfoundland would be plainly seen.

Even under the clouds, which were only about eight hundred feet above the water, the visibility was very poor. A thick mist was shutting in on them. They flew on, trusting

to their instruments, and once, later in the afternoon, the clouds parted for a few moments and gave them just a glimpse of land nearly dead ahead—not long enough, however, for them to identify it positively. They hoped for another such break in the clouds to help them with the navigation.

The bumpiness of the air was increasing. Jack caught a wireless call from some station in Canada, but the message was so badly garbled by the static that they could not be sure of its location. The call of some ship could be faintly heard, but it also was too confused to be of any use to them.

Between five-thirty and six they ran into an area of clear weather, which lasted long enough for them to place definitely the land ahead as Cape Race. It was just what they needed, and confirmed Jack's navigation figures. Using it as their last point of land, Jack changed their course slightly and the real ocean voyage began.

They were not sure they had been sighted at this point, but rather hoped so, and that the world would know they were well on their way. Below them the sea looked angry and was flecked with white.

In his mind's eye, Kiwi had pictured this breaking away from land, and had thought that he would be able to look far to the eastward across the Atlantic and feel its immensity. He was not so fortunate, for directly ahead and seeming to bear down upon them were ragged gray clouds, and rolling along the surface of the water a thick gray fog.

The plane was still being tossed about by the confused wind, and now that they had their last bearing determined, it was the Skipper's idea to try and climb over these clouds. They were soon amongst them. Darkness seemed to shut in

almost at once, and the Skipper switched on the running lights on the instrument board. Jack was watching his instruments closely, checking their drift.

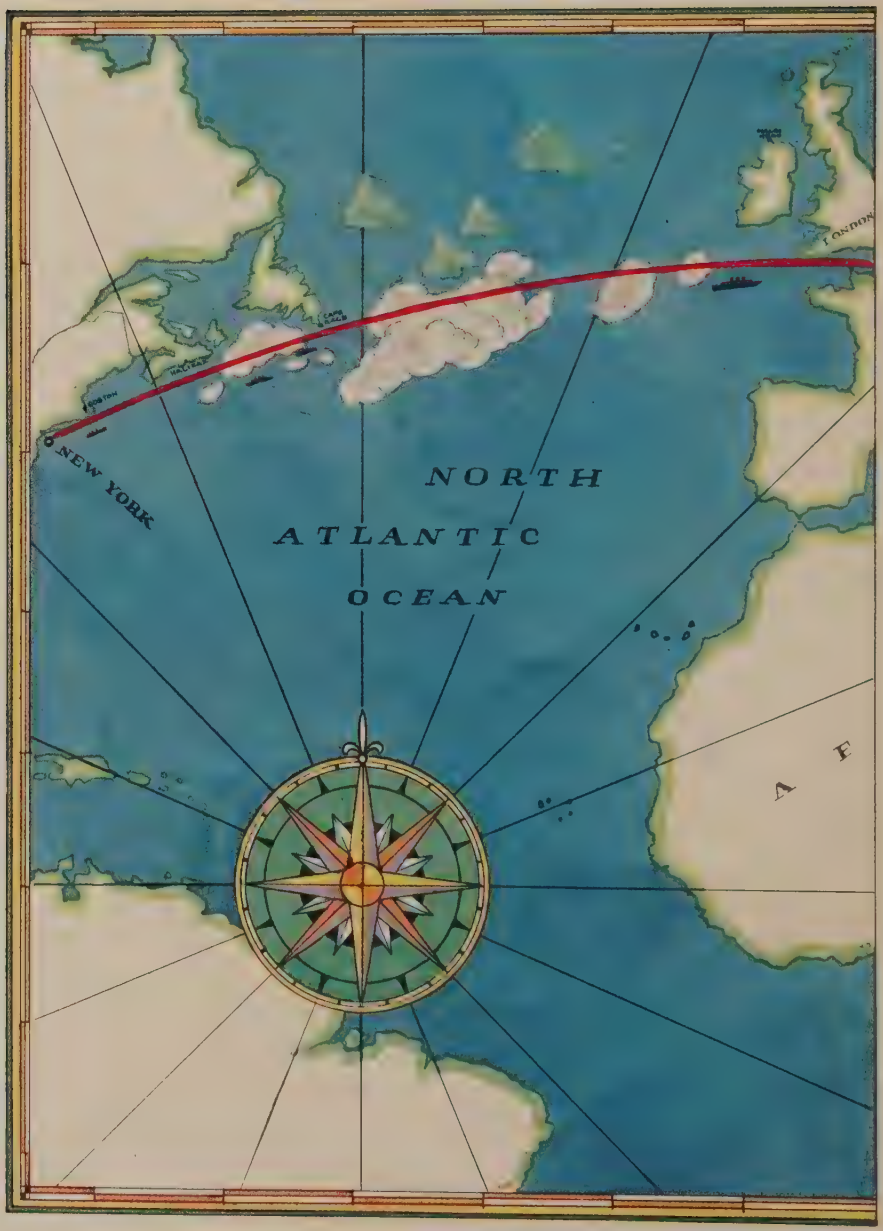
Kiwi, having no light in his compartment, crept up on the tank and lay there watching the progress of their plane through these dense clouds. The hand on their altimeter slowly turned . . . three thousand feet . . . four thousand . . . and if anything the clouds seemed thicker. The fog condensed on the windows of their cockpit and was carried backwards in wisps of water. Five thousand . . . six thou sand . . . still as dark as ever. The wing tips could scarcely be seen.

At times the plane would plunge and rear, and Kiwi had to brace himself to stay in position.

By the time they had reached nine thousand feet the darkness seemed a little less dense. At ten thousand they came out into comparative twilight. But even here they could not see the stars for there were other light masses of clouds above them.

A long time passed, with only the drone of the motor to be heard, and with nothing to be seen except piled up clouds in every direction.

Kiwi must have dozed, for he awoke feeling stiff and cold, how much later he did not know. It took him a few seconds to realize where he was. Then he saw Dad still at the stick and Jack bending over his wireless key, tiny blue sparks showing that he was sending a message. Kiwi was just able to follow the code which told him that Jack was asking some ship if his signals were loud. The clock on the instrument board said half past two. The ship replied, and Jack


NEW YORK
NORTH
ATLANTIC
OCEAN
LONDON

EUROPE
PREVAILING WINDS ARE WESTERLY
PARIS
PERSIA
ARABIA
KARACHI (INDIA)
INDIAN OCEAN
DAUNTLESS
THE PROPOSED FLIGHT OF THE DAUNTLESS IS INDICATED IN RED

wrote the message out on a little pad beside his instrument and showed it to the Skipper:

"Signals very loud. You must be near. Can you see our lights? Some fog on the surface."

Another hour passed. The same ship sent word that the signals were getting fainter. But another ship broke in, gave its position and the ship's operator, and then sent:

"Your signals strong enough to knock our heads off. What is your height? You must be just over us. We will send up rockets. Tell us if they are seen."

All three watched on every side, but nothing except a tumbled mass of clouds met their gaze. The air up here was getting colder. Kiwi shivered. The Skipper, looking back, noticed him, and it crossed his mind that in the excitement he had forgotten to open the heater which ran from the exhaust pipe on the engine. It was the work of a moment to throw the lever over, and almost at once they felt the warm air come up into the cockpit.

Jack took over the controls for a little time, and the Skipper and Kiwi transferred the last of the extra fuel to the big tank and disposed of the empty cans.

The Skipper made a hurried check of their fuel supply in both the wing tanks and the main one, and appeared to be well content with the way it was holding out.

Kiwi was taking small cat-naps on the top of the tank and beginning to wonder if it were not time to eat again. It was still dark and there was nothing to be seen—no moon, no stars, just a gray pall on every side.

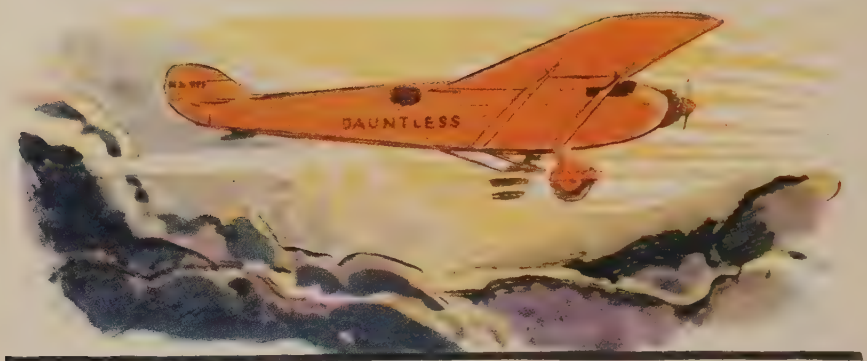
He awoke from a longer one of these naps to find it much lighter and the lights on the instrument board looking very

yellow in the daylight. Jack was just saying, "I think I've picked up the government radio station at Malin Head, Ireland."

While Jack was trying to pick up their message, the Skipper leaned forward to switch off the instrument-board lights, and as he did so he glanced out the window along the wing on Jack's side and made an alarming discovery.

The fuel pipe line from the wing tank ran along the outside surface of the wing for a short distance, and then curved down to the fuselage, where it came through to the main tank and the carburetor. In the curved part was a flexible joint which had evidently vibrated loose, for streaking out behind was a flow of their precious fuel. There was no way of knowing how long this had been going on.

The Skipper had a terrible sinking sensation as he realized what the consequences of this tiny leak might be. Perhaps gallons had even now been lost and the seriousness of it appalled him. They would need every drop they had to reach India, and already enough might have escaped to ruin their chances of even making Europe.



MID - ATLANTIC

CHAPTER VII

WITHOUT a word the Skipper touched Jack on the arm. He looked up, and the Skipper pointed to their trouble. As Jack took off his ear-phones, he mechanically sent out "Stand by."

Both Jack and the Skipper turned over in their minds plans for remedying this trouble. The Skipper immediately turned off the flow of fuel that was being pumped into the right wing tank from the main tank. The fuel remaining in the wing tank continued to leak out, for it came through the pipe line into the carburetor by gravity. By adjusting his valves the Skipper drew on his supply in the left wing tank.

They were in a desperate plight. Something must be done at once to stop this leak. Although they had tried to provide for every emergency, here was one which would tax their ingenuity to the utmost.

They had a large roll of tape and a bottle of liquid similar to shellac in the equipment; but whether Jack could reach back far enough to tape the break was doubtful. However, he

opened the sliding window beside him and tried it. For the first time in his life he regretted his broad shoulders, for the small window gave him no room in which to work. Once the rush of the wind nearly tore the tape from his hands. He slipped back into his seat to rest for a moment, after the twisting strain he had been under.

Kiwi had been watching with absorbed interest while this maneuver was going on. He asked Dad if he might try. The Skipper said it was impossible; but Jack was on Kiwi's side and thought it might be accomplished.

With a little jockeying they got Kiwi down to the window, and with Jack holding firmly to his legs he leaned far out and attempted to wrap the tape around the break. The rushing of the wind was more than he had counted on, and he felt it pull and claw at his clothes as he hung half out of the window. In this awkward position it was almost impossible for him to do anything, and he motioned to Jack to haul him back into the cockpit.

Then Kiwi put forth the suggestion which made both the Skipper and Jack catch their breath. Would Jack help him through the window and lower him until his feet touched the struts which supported the wing, where he felt that he could brace himself and do the job?

Kiwi saw a look of horror pass over Dad's face, but he was sure it could be done. Using all the arguments he could think of, he at last convinced Jack, and Dad grudgingly gave his consent for the try.

Slipping out of his jacket so that Jack could get a firm hold on the leather belt at his waist, Kiwi started, feet first, through the window. Inch by inch he wormed his way out,

reaching with his feet for the strut where it joined the fuselage.

The Skipper banked the plane over to help Kiwi as much as he could. He saw the perspiration stand out on Jack's face, and noticed its set expression as Kiwi's feet groped about for support. Another inch and he might reach it! The force of the wind was terrific.

Kiwi, under this strain, was not conscious of the cold now. He had to look down to find the strut. Just at this time they were passing over mountains of clouds. He caught a glimpse, hundreds of feet below, of a yawning cloud valley with the churning masses of gray fog in a whirling turmoil. Its awful immensity scared him for a second. Then he located the strut with his foot and tested its strength.

As soon as Jack felt that Kiwi had some support, he lowered him until both his feet were pressed against the strut. Then Kiwi slowly faced around and found that he could just reach the pipe line. The orange side of the plane stretched out behind him, and he was vaguely conscious of the word "Dauntless" in huge block letters.

Keeping a grip on Kiwi's belt with one hand, Jack with his other hand passed out the roll of tape, and the slow work of winding it commenced. Inch by inch Kiwi wound, the fuel freezing his fingers in the terrific cold. He had one layer completed, and Jack passed out the shellac. Somehow or other he got a coat of it over the tape. It dried almost instantly, and the difficult work of another layer was begun.

Kiwi signalled to Jack that he must rest, and Jack eased him over to the side, where he hung shaking with weariness from his efforts.

The Skipper was undergoing untold tortures, for he could only guess at what was going on. Jack's body at the window shut off his view of Kiwi. He was doing everything in his power to hold the plane steady, using every particle of his skill to keep the bumps from causing Kiwi to lose his footing.

But in spite of all the Skipper's efforts, one particularly vicious bump caused Kiwi to slip, and for just a second he wondered wildly if Jack could hold him from dropping off into that awesome space. His feet found the struts again, and he rested.

Slowly another layer was put on, and the flow stopped. To make sure, another coat of shellac was put on and another layer of tape. Just then a few drops of rain warned of another shower.

At last the job was finished, and only time could tell if it would hold.

Then came the struggle to get the boy back into the plane. Slowly and painfully he was drawn up to the level of the window. With a final tug he was pulled inside, and Jack, with his last remaining strength, lifted Kiwi to the top of the tank.

They were an exhausted crew for the next few minutes, there in the middle of the broad Atlantic.

A great deal of altitude had been lost, and they were now in the midst of churning clouds. It was quite probable that the Skipper, in trying to make things as easy as possible for Jack and Kiwi during their terrific ordeal, had gone considerably off the course. In tipping the plane over sideways he had flown in big circles, and it was necessary that they lose no time in resuming their straight flight.

CLAYTON
KNIGHT

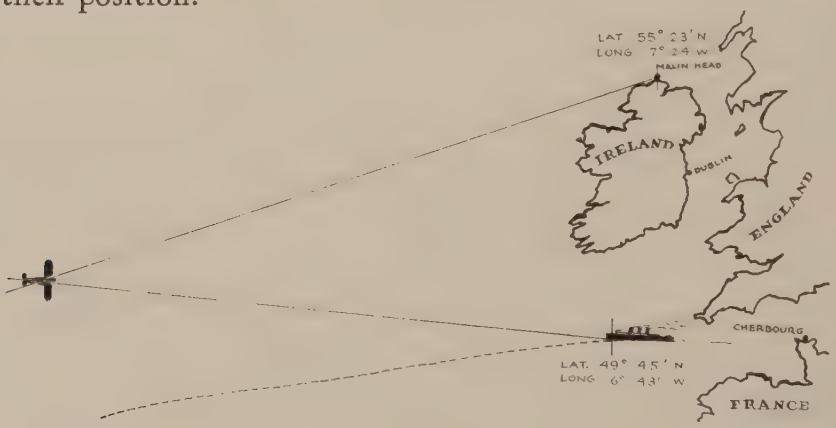
The Skipper at once began to climb back above the clouds. The plane was still soaked from the rain squalls they had passed through. Not long after, they came out into the bright sunshine, and there directly ahead of them, like a promise for their success, was a tremendous rainbow. It reassured their worn spirits, and the Skipper pointed it out to Kiwi with the comforting words:

"There's your pay for a good job done."

It was unlike rainbows seen on the ground, for the delicate colors made a complete circle. Kiwi looked down and there on the uneven surface of a cloud was the distinct shadow of their plane moving toward the rainbow. Then the plane seemed to pass completely through it. Surely a good omen for the success of their flight.

The Skipper felt that there could be no better time than this for a little food. They finally located a package of sandwiches, and he and Jack refreshed themselves from the thermos bottle. The coffee was still piping hot. Kiwi, after eating a sandwich, finished the other orange that Old Bill had given him.

Their spirits rose tremendously. Jack put on his headphones and put out a call to find some one who would verify their position.



The Malin Head station in Ireland got signals through to Jack much plainer than they had in earlier attempts. After some trying, Jack got the latitude and longitude of Malin Head and their directional bearing. Locating on the map the Malin Head station, and drawing a line on the map on the bearing the station had given him, meant that a similar bearing from a different angle would locate the plane's position over the Atlantic. He now needed a check-up from another station.

The *Aquitania*, twelve hours out of Cherbourg, sent its position, and from its directional radio the bearing. It was then the work of but a moment to make the necessary calculations, and Jack placed his pencil point down upon the chart and said, "Well, that's where we are now."

About half of their water crossing had been accomplished.

Still Kiwi had no view of the ocean under them. In the hours since they had left the coast of Newfoundland, they had always been in the clouds or had had a heavy layer beneath them. They were flying at about eight thousand feet, and ahead of them now was a huge wall of clouds that seemed to extend upward fully eighteen thousand feet. The light shone on them, lighting up the peaks and valleys of the cloud mountains. They approached the clouds rapidly, and once in them the plane was plunged into a heavy twilight.

The air bumps here were terrific, tossing them about, and the Skipper was obliged to keep his eye constantly on the bank and climb indicator in order to keep the plane on anything resembling an even keel. As they had entered the clouds the wind had been nearly dead astern, and here in the murky darkness they were compelled to trust solely to their instruments for navigation. The wind caught them up in fierce eddies, and swirls of gray clouds sucked up past them. Flashes of lightning darted here and there. The plane seemed to have no more stability than a kite.

Kiwi's heart leaped as one tremendous bolt of lightning flashed before his eyes, just ahead. He felt the entire plane quiver under the impact of the blows struck by the wind. They had become accustomed to the roar of the motor, and now it seemed as though they could hear the noise of the storm.

As the wind howled by, they could feel the air growing colder and colder. Kiwi watched the magnetic compass, set up high above the instrument board, swing first one way and then the other with the twisting and turning of the plane as it was buffeted by the winds.

Jack had stopped all attempts to use his wireless, and had his spare control stick in place ready to help the Skipper should he tire from his tremendous exertions. Both their faces showed the strain of flying through the storm.

As the cold increased, sleet began to beat against the windows, and Jack glanced out uneasily to catch the first indication of ice forming on their wings. He realized the seriousness of such a happening. The upper and lower surface of the wing was cambered, or curved, in a scientific way to help lift the load of the plane, and anything that changed this curve would destroy its lifting power. Therefore at the first sign of ice forming on the wings they must begin a hunt for warmer air currents. Ice often formed with great rapidity, and knowing this both the Skipper and Jack watched closely for the first tell-tale sign. The engine was throttled back about a quarter to the best cruising speed.

There seemed to be no end to the storm. It had been nearly half an hour since they had left the clear sunshine and entered into this ominous twilight. They had held their altitude, knowing that it was no use to try to climb above the clouds, and having no assurance that it would be better lower down. Every little while rain would suddenly fall, and as suddenly stop.

All at once they were conscious of a thin film of the dreaded ice forming over the cockpit windows. Jack slipped back the

glass panel and looked out. There on the leading edge of the wing was the unmistakable sign that ice was starting to form. In uneven lumps it was building slowly backwards. . . .

Jack told the Skipper the disquieting news and shouted to Kiwi to slide back to his window in the rear compartment to see if the trailing edge of the wing was also gathering ice. Kiwi's window was not as badly obscured as were those in front. He could see a thin layer of ice on the trailing edge working forward with great rapidity, and he crept over the tank to report this to Dad.

"We'll try it lower," Dad said. "We may strike some warm air there."

Shutting off the engine as much as he dared, they coasted on down and down.

They tried it at the five thousand foot level for a few minutes. If anything they accumulated ice faster.

They went down another thousand feet. The plane seemed to be much heavier on the controls. Still no halt in the gathering of the ice.

The situation was becoming desperate, and the Skipper told Jack to try and get into communication with some ship. If the ice kept on forming it would mean that they would have to land on the water in another fifteen or twenty minutes. In order to fly level it was necessary to run their engine almost at its maximum.

They brought the plane lower down, and still they could see nothing but swirling clouds.

Jack was sending out their call letter with the S O S to show that they were in trouble. He got a feeble answer, and worked with his instruments trying to bring it nearer and clearer.

Still the hateful ice piled onto them. Extending back from the leading edge of the wing it was now fully an inch thick. It was freezing in the narrow slots of their ailerons. The Skipper was finding it increasingly difficult to balance the plane sideways.

He came down to a thousand feet, straining his eyes for a glimpse of the ocean underneath. All was gray and murky.

Jack was working feverishly with his sending key and listening for an answer to his calls. Two ships in their eagerness to help were interfering with the reception of either message.

The engine was now wide open, and they were staggering along under the load of ice. They could not see the tail of the plane, but knew from the way the elevator operated that it, too, was covered with ice. Slowly they were losing altitude.

Jack was getting one of the calls a little better. The ship was sending her position and asking for theirs. The Skipper, now thoroughly alarmed and feeling that they were to be forced into the water, called to Kiwi to get their collapsible boat and put it where it could be reached in an instant. It was stored in the rear.

Kiwi made his way back, unlashed it from where it hung, and started forward. As he crept to the front he saw Jack, every nerve tense, trying to make out the code, and Dad straining his eyes to catch the first glimpse of the heaving water.

Nothing but the deep grayish blue everywhere.

Suddenly, out of the gloom ahead, they made out a white shape rising straight up a hundred feet above them. It looked

pale and ghostly. There was no time to figure out what it might be. The Skipper instinctively yanked the stick back. The plane staggered up, making a valiant effort to obey the demands of its pilot. Jack glanced up from his instruments just in time to see this white spectre approaching with terrific speed. He turned a look of amazement and horror upon the Skipper.

The plane climbed ever so sluggishly, but as the shape came rushing at them they saw that it would be cleared if only by a matter of inches.

"It's an iceberg!" exclaimed Jack.

The Skipper pushed the stick forward and leveled out just as their flying speed was dropping to an alarming extent. He was hardly quick enough, for one wing dropped and they started into a flat spin. At once the Skipper put the nose down until they had flying speed.

They rushed along. Realizing that there might be more

bergs in the neighborhood, both watched ahead with a fascinated gaze. They saw two more—one to their right, so close that their throats tightened with the fear of it.

Strangely enough the air here seemed a little warmer. The plane was handling better, and they began to hope that the ice was not gaining on them.

Twenty minutes went by, and they began to feel a little easier. Now there was no doubt but that they had hit a warm air current and the ice was melting.

The Skipper was able to throttle back the engine and still keep an altitude of about one hundred feet above the ocean. They were close enough now to see the mighty heave of its waters, the blue-black of its surface broken here and there by white foam as the waves broke.

Another hour they hurtled along, the air getting clearer, when suddenly Kiwi noticed away to their right a big ship plunging along. The red of her funnels and the white of her decks contrasted sharply with the dullness of the background. He pointed it out to the two men in front, and the Skipper bore over toward it.

"Send them a message, Jack, that we'll keep going," he said.

Jack started with his key, sent out his call letter, and waited for its acknowledgment. The answer came, very faint:

"Your signals weak. Can hardly hear you."

He tried again. The answer was just audible.

"Can't hear you. Are you sending?"

this time they were very close to the ship and Jack the Skipper:

"Something wrong with the wireless. They can't hear us."

During the next few seconds it took to come abreast the ship, it flashed through the Skipper's mind that at the time of their narrow escape from the iceberg it was quite possible that their wireless aerial, trailing underneath, had been torn off. He barked out to Jack:

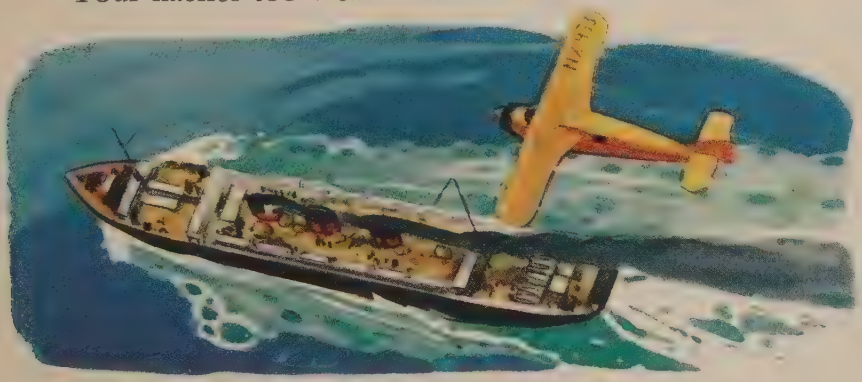
"Try sending the message with your flashlight!"

Among the numberless things that had been stowed away aboard the plane, Jack had provided himself with a powerful flashlight to use in such an emergency.

As they swooped low over the ship they could see the rails lined with passengers staring up at them. Jack opened his window and thrusting the flashlight over the side started blinking the message as the Skipper tilted the plane over and began a wide circle around the liner.

Kiwi was craning his neck over Jack's shoulder, and saw a light sending out flashes from the bridge. Profiting by Jack's training, he was able to read the ship's message. It said:

"Your flashes too weak. Can't read them."



Informed of this, the Skipper decided that they would have to write a note and try to drop it on the decks.

Jack hastily wrote out the message:

"Trouble over. We're going on. Your position, please."

Looking for something with which to weight it, his eye lighted on one of the bottles of water, and with a rubber band that he had been using to keep his writing pad in position, he fastened the note to the bottle and signalled the Skipper to fly into position to drop it.

The Skipper swung in a wide circle and approaching the ship from the stern as slowly as he could, he yelled to Jack:

"Heave it out when you're ready!"

As they flew directly over the ship they felt a great air bump as they crossed the smoke-stacks and were struck by the heated column of air. As they passed the bow of the boat Jack leaned far out and threw the bottle downward.

Kiwi felt the plane lurch as Dad turned it quickly to watch the bottle's descent. It went hurtling down, and for a second it seemed as though it would strike the bridge. Then the wind caught it, it struck one of the lifeboats and bounded off into the water. It was disheartening, but they must try again.

Jack wrote a repetition of the message, and then was at a loss to know what he could use to weight it with. There was just one more bottle of water, and it was too precious to use for this purpose. Both Jack and the Skipper thought fast. Then the Skipper said, "Here," and reaching into his inside pocket beneath his flying suit, he pulled out a cigarette case. It was a silver case, heavily engraved, that the men of his squadron had presented to him at Christmas, 1918, after the war had ended.

Jack made a sign that it was a shame to risk it, but the Skipper shrugged his shoulders, and Jack hastily added to the message, "Return this case to Captain McBride later." He slipped the message inside the case and clicked it shut.

The Skipper jockeyed into position for another try. This time he came down even lower and kept to the leeward side of the ship. Rushing along nearly on a level with the top decks, they had passed the ship before Jack had time to hurl his message.

Again the Skipper swung the plane around, and this time as he drew alongside Jack leaned out and threw the case with all his might. It went spinning toward the ship, sailed over the rail, struck a hatchway, and was pounced upon by one of the stokers on the forward deck.

The crowd on board waved frantically to the plane above. The "Dauntless" swung in a wide circle and came back over the ship for the last time. A puff of steam from the whistle and a flashing light on the bridge showed that those on board had read the plane's message were sending them the ship's position and a "good-bye."

Straightening out on their course, after Jack had read the ship's answer, they flew on at top speed and soon left the ship far behind.

Kiwi scrambled back to his little window, and with his face pressed against the pane saw the liner melt into the haze. A great feeling of loneliness came over him as he saw it disappear from view. The fleeting glimpse he had had of other human beings had served to bring home to him their utter detachment from the world. He commenced to realize how long they had been on their way, and thinking back over

their trials and adventures he suddenly felt very weary. He longed for sleep, but Dad called out:

"How about some lunch, Kiwi?"

Kiwi unwrapped his own sandwiches and climbing up on the tank offered them to Dad and Jack, but found that they were already busy with some of their own. The food and coffee seemed to cheer up the two men, and the engine hummed merrily along carrying them on their way.

Sitting crouched on the top of the tank, Kiwi's head nodded several times. Feeling himself slipping off into slumber, he stretched out. Above the noise of the engine he could hear Dad singing with great gusto an old negro spiritual that he was very fond of:

"I'm goin' to tell God all o' my troubles,
When I get home.
I'm goin' to tell God all o' my troubles,
When I get home.

"I'm goin' to tell Him the road was rocky,
When I get ho-o-m-m-e.
I'm goin' to tell Him the road was rocky,
When I get ho-o-m-m-e.

"I'm goin' to tell Him I had hard trials,
When I get ho-o-m-m-e.
I'm goin' to tell Him I had hard trials,
When I get ho-o-m-m-e."

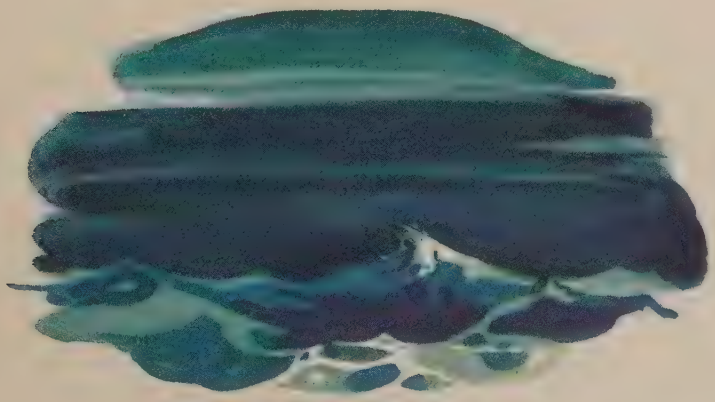
Kiwi must have slept for a couple of hours. He awoke with the feeling that something was wrong. Almost instantly he discovered that the steady beat of the engine had changed. It was missing and spluttering and the plane was vibrating in a terrifying way.

Jack was working with his wireless instrument. Kiwi saw him shake his head and complain, "Nothing I can do will bring those signals loud enough to be of any use."

He gave it up and the Skipper asked him to check up the amount of fuel they had left in their tanks. Yes, there was plenty of fuel, for the Skipper nodded his head.

They were above the clouds. As far as the eye could see they were stretched out in a rolling plain, looking for all the world like drifted snow. They looked solid enough to land upon.

If their engine failed to pick up within the next few minutes, they would lose altitude until there was nothing left to do but crash . . . and their flight would end in disaster.



CONDITIONS CHANGE

CHAPTER VIII

THE sun was getting lower in the heavens, but having spent so much time in the murky twilight of the clouds, the light still seemed very bright to them.

The clouds beneath them remained unchanged. Kiwi looked straight down and watched them as they drifted by until he became almost giddy. He called Jack's attention to the shadow of the plane racing across this uneven surface.

Soon the sun disappeared from view, but the uncanny light still held. They flew on and on. There was nothing to see in all this vast plain.

No one seemed to be able to reason out where this uncanny light was coming from since the sun had set. All felt that a change had come over them. Where a few minutes before they had stared at disaster, now they ceased to worry about their engine or its failure.

The plane nearly flew itself. There were no bumps, and it needed very slight correction at the controls to keep it on its course. The clear light seemed to come from tiny bright particles in the air such as one sees on a dewy morning.

Gradually Kiwi became conscious of something ahead. Far off on the horizon the rolling clouds seemed to merge into something else. Could it be hills that he saw? He looked at their altimeter. It showed that they were flying at about twelve thousand feet. He glanced back to the horizon, and the land seemed plainer. He thought he must be dreaming. He rubbed his eyes vigorously and looked again. It was still there.

He glanced at Dad and Jack to see if they, too, had discovered it. Jack's head was nodding and he appeared to be asleep. Dad was leaning forward with an intent gaze, brushing the back of his hand across his eyes as though he, too, could hardly believe that what he saw was true.

Kiwi saw him throw a quick glance across at Jack's charts, study them for a moment, and then look quickly ahead again. The apparition was still there. The Skipper studied it for some minutes. It seemed miles and miles away, but was getting plainer.

Kiwi thought he could see darker masses slightly to the left.

Dad was still straining forward, and without moving his eyes from the horizon nudged Jack. Jack came to with a start, noticed the Skipper's tense attitude, and peered ahead through that peculiar light. Slowly he, too, discovered those strange shapes. He consulted his map, then the compass and drift-indicator. Puzzled, he turned to the Skipper. Plainly here was something that neither could understand. At last Jack was able to say:

"Can it be a mirage?"

Without moving his eyes from it, the Skipper replied:

"It's possible. Early one morning over St. Omer in France, I saw something like it for a few seconds. But this has been in sight now for some time."

With each passing second the apparition was becoming a little more distinct.

Kiwi leaned forward, and asked:

"What is that, Dad? Have we reached land?"

Dad shook his head, and there was another long pause as they all studied this appearance of land ahead. Jack looked at his charts and knit his brows. He went over their course on the map and shook his head, as puzzled as ever. He could find no solution.

Now the hills, instead of coming nearer, seemed to recede. It should be night now, if their clock and watches were right. The dazzling light still puzzled them.

A little later, Jack turned to the Skipper and said:

"Doesn't that look like a plane just above the horizon?"

In another few minutes they made out several more circling just over the hilltops. And then, off to the right, they could see about a dozen planes flying in formation. They also decided that some tiny specks on what seemed to be the surface of the clouds were other planes, resting there.

A look of helplessness was beginning to cloud the Skipper's face. There had been few times in his flying experience when he had not had a very good idea of where he was. Once or twice he had been lost in the air, and it carried with it a feeling such as one never has when lost on the ground. On the ground, even on the darkest night and in a strange country, there was always the possibility of meeting someone who could supply directions, or of finding a signboard that

would locate one. But in the air there was no passing stranger or friend that one could ask for help.

The Skipper remembered the first time that he had been hopelessly lost in the air.

It had happened while he was training in England. He had flown to an airdrome several miles from his own, hoping to find there an old friend and to renew acquaintances. He had followed a railroad line, which in almost every case is perfectly visible from the air and is the shortest connecting link between cities and towns. This particular railroad skirted in a wide circle a town near the airdrome he was to visit, and it was joined there by several other branches of the road.

Locating the airdrome, he landed. As he came down a severe rainstorm had swept over the field. Upon learning that his friend had been transferred to another airdrome, he was anxious to be off and away; but those at the field counselled him to wait until the storm was over.

In about twenty minutes the heavens above the field were clear, and he took off to return to his own airdrome. Picking up the railroad line again, he was confronted with the problem of deciding which branch he must follow. Relying on his compass, which he had every reason to believe was accurate, he chose the one that seemed to lead off in the right direction.

He had followed it for some time at an altitude of about five thousand feet when he overtook the same storm. The tops of the clouds were too high to surmount. They also extended nearly to the ground, and were emptying torrents of rain over miles of country. There was nothing to do but fly through them; and although in those days he had had

little or no experience in flying a compass course, he felt that now would be a good time to practise it.

Entering the clouds he had been appalled at the turmoil. The swirling winds carried him this way and that. He was dropped down fifty or a hundred feet and as quickly snatched up and carried upwards. He fought the storm for half an hour, marveling at the force of it.

His whole attention was devoted to keeping his plane on an even keel. Occasionally he glanced at his compass to see it turning this way and that, so that he had only a hazy idea of his general course. He watched, fascinated, as the lightning played through the thick clouds. Always he kept a close watch downward to catch the first view of the ground, hoping against hope that his guiding railway line would appear somewhere.

When the air did clear below, he was horrified to find nothing but water beneath him. For a matter of seconds he flew on, hoping that it might prove to be a lake or the wide mouth of a river.

Slowly it was borne in on his consciousness that he was out over the North Sea and that very probably his compass had been playing him tricks and could not be depended upon. However, the right way *must* be back, and losing no time he swung his plane around and started in that direction.

Almost at once he was again swallowed up by the storm, the rain coming down upon him in torrents.

His goggles became obscured and he pushed them up to get a clearer view ahead. The unaccustomed rush of wind and rain in his eyes made it impossible for him to see with any distinctness. After coming through the storm the first

time, he had promised himself that never again would he voluntarily repeat such an experience. But here he was back in it again, fighting as hard as before to keep the plane flying in some semblance of a straight line.. He could keep no track of the time, and when the storm did lessen he felt that it must have been hours that he had been fighting those contrary swirls of air.

A great feeling of relief welled up in him as he at last saw land underneath. Even though he had no idea of his location, at least there was solid ground under him. Bewildered, he looked for a sign—some town or some familiar forest formation—that would locate him.

Off to one side he saw a railroad line. Whether it was the same one that he had been following or not, he could not tell. But it would surely lead him to a place that might help him. The plane he was flying was a difficult one to land on a small or uneven field, and he had no intention of taking that risk unless it was necessary.

Sighting a town ahead he flew low, hoping to read the sign on the railroad station. His eyes still smarted from the rain. The station proved to be too well surrounded by telegraph wires on tall poles and the chimneys of a factory to permit him to fly near enough to make out the name.

He was completely lost. There was no doubt of it. There was nothing to do but go on, even though his fuel supply was getting dangerously low.

Another town, some distance away, lay wrapt in a haze. Approaching, he was overjoyed to recognize in the center of it a large, star-shaped building, probably a hospital. From this point he knew he could find his way. He remembered

that near by there was a large country house surrounded by a formal garden. He looked in the direction where he expected to see it, but it was not there. When he did locate the house it seemed completely turned around, and he had to readjust himself to this changed condition before he could shape his course for home. As he did so, and the compass ceased its slow turning, he discovered that it was off many points and had been one of the causes of his bewilderment. He was now able to find his way to his own airdrome without further trouble.

Now, again, the Skipper had the same peculiar, lost sensation. Even though he had Jack, an expert navigator, with him, the situation in which he found himself brought back the old baffled, hopeless feeling. It had been a long time since they had left the ship behind—since they had seen anything but this rolling plain of clouds—and now they were facing a situation so unusual that he felt numb trying to understand it.

Land seemed to be ahead where their charts told them no land could be. Several planes were flying in their direction. One, large and unwieldy, approached quite close, its occupants leaning over the side, studying them.

Kiwi thought he knew every type of plane that was being flown in his day and age, but he had never seen one like this before. Jack pointed it out to the Skipper and they both examined it closely.

Suddenly the Skipper blurted out, "Why it's a Gotha!"

As the plane came nearer to them it dipped lower and made its ponderous way to one side; then it swung in a wide circle and drew close behind them.

As they flew on, other planes passed above and beneath them, and the Skipper's face grew more and more bewildered as he identified, one after another, planes long obsolete in the flying world. A monoplane, such as Bleriot had made history with in crossing the English Channel some twenty years ago, appeared. Early types used in the war swooped down upon them.

As they sailed along the great plateau, more and more planes whose pilots seemed filled with curiosity came into view.

They were being hemmed in closer and closer. Dotted here and there on the surface were machines of every conceivable design. The crew of the "Dauntless" were at a loss to explain it all.

Stretched out on his perch on the top of the tank Kiwi was immensely interested in the sight.

One pilot in an old bombing plane, a clumsy flyer at best, edged in so close to get a better view that the Skipper had to turn sharply to avoid a collision. Everywhere they looked were antiquated planes continually closing in on them.

The Skipper began to fear that he would never be able to pilot the "Dauntless" through this swarm. As they twisted and turned, Jack leaned from his window and tried to signal the other planes that they *must* stay farther away. They were like a cloud of birds pecking at an owl who had looted their nests. The Skipper grew nervous at the thought of being driven down to a landing.

There seemed to be a concerted action to keep the "Dauntless" from continuing its flight. Try as he would, the Skipper could find no way in which to shake off these persistent

pursuers. Their motor which a short time before, with its missing and spluttering, had brought their hopes of ever seeing India to an end, now functioned with absolute perfection.

Constantly they were being driven closer to the surface, and even though they had outdistanced some of the heavier and slower machines, others had taken up the chase and were frolicking about them.

Kiwi was delighted with their tumbling antics.

In a few minutes more they were so close to the ground that there was nothing left for them to do but land. The Skipper, his face red with anger, yanked back the throttle; the motor quieted down till the propeller was just ticking over. They glided rapidly in. The wheels found support on the surface. They had landed.

ANOTHER WORLD

CHAPTER IX

AS the plane rolled to a stop, both Jack and the Skipper found their tongues. What was the meaning of this performance? Why were they forced down? Where had they landed? Certainly these other pilots were not treating them or their flight to India with the seriousness that they deserved.

The Skipper remarked in a disgusted tone of voice as they climbed out:

"It looks like a good-for-nothing training ground for pilots from all over the world, except that most of them can fly and fly well."

The other planes were now landing all around them and their pilots, clambering out, hurried over and started examining every detail of their machine. They were a good-natured lot and seemed to have no idea of harming them in any way.

Kiwi was still in the cockpit of the plane, not knowing what to do. Several of the pilots spied him. Plainly delighted they shouted to him to come out and join them.

The Skipper, still bewildered, looked up as Kiwi started to climb through the window, and said:

"Watch out, Kiwi! Better let me help you down."

With that a great shout went up from the crowd:

"Here's a Kiwi!"

It was then that the crew of the "Dauntless," looking about, realized that there was nothing but pilots anywhere in sight.

There was a commotion on the edge of the crowd, and elbowing his way in was a tall young man wearing a British officer's uniform. Grasping the Skipper by the shoulders, he swung him around and then blurted out:

"Well, if it isn't Skipper McBride, of all people!"

At the same time the Skipper recognized him and exclaimed:

"Why, Thorne, what are you doing here? And where are we, anyway?"

Thorne told him that he had been there for a long, long time—he could scarcely remember how long.

"We keep no track of time in this place, Skipper. You're in another world now. The nights follow the days and we have nothing to worry about."

Then he wanted to know who Jack was and also who the boy was.

The Skipper explained to him hurriedly of their flight and of their hopes of landing in India; how Kiwi, who was his son, had at the last minute stowed away aboard the plane, and how he had been able to help them in their journey over the water.

Thorne suggested that they get out of their flying clothes, and that he would take them to a place where they could rest up.

As Jack was removing his suit, Thorne and one or two of the others spoke up:

"Well—here's the Navy! There's a whole crowd of your fellows here, and no doubt you'll find many friends among them."

They had started off toward the edge of the field when the Skipper stopped and asked if something could not be done for their plane. Thorne waved him aside with, "Oh, it's all right where it stands. Don't worry about it."

As they were walking along, Thorne became interested in Kiwi, and asked him how he liked flying. Kiwi, who had admired Thorne immensely from the first, chattered to him of their adventures in the clouds and of their narrow escape from the iceberg.

Arriving at the edge of the field they were made comfortable. Then a message came for Jack that a crowd of his Navy friends, hearing of his arrival, would be landing soon at a nearby field, and would he come over and join them.

Jack left, saying that he would return later.

The Skipper now took this opportunity to ask Thorne more about this flying world in which they had landed.

Then Thorne began:

"This little kingdom of which you and Jack and Kiwi are now a part is composed entirely of aviators who, in the other world, gave their lives for the advancement of aviation. Among us here are men who made experiments with the earliest gliders, who tried to fly crazy contraptions built by the rule of thumb and flown more by confidence than by knowledge. There are also among us pioneers who tried to find ways and means of doing impossible things in the air. The

last war contributed hundreds who were the founders of traditions for the use of aircraft in battle. Some were sacrificed in order that the need for parachutes for every pilot should be recognized. Many whose names are even now unknown in aviation, here have found their place and here their merits have been recognized. Test pilots, those unsung heroes of experimentation, form a large part of our numbers. Beginning with the legendary Icarus and continuing up to the present time, a steady stream of recruits have flowed into our kingdom, and they mark the progress of man's conquest of the air."

Then Thorne rattled on, in a way that the Skipper remembered as characteristic of him in the old days, recounting stories of pilots they had both known.

Both Jack and the Skipper found many friends. Only a short time before several other planes attempting to cross the Atlantic had landed here. Two Frenchmen with glorious war records were part of the group. They told their stories of fighting the elements over the Atlantic and their experiences with the treacherous ice.

They talked on and on and all seemed anxious to know the details of any new developments that were being made in aircraft. Anything that had to do with flying interested them.

Kiwi sat and drank in their stories. But since his talk with Thorne, he had had little to say, for he felt that he was something of an outsider inasmuch as he really did not know how to fly.

As time went on, more flyers gathered round. Some were old friends of the Skipper's; others, pilots who knew him or knew people whom he knew.

Always overhead there were planes tumbling about. Kiwi looked up and watched them stunting, rolling and looping like so many swallows on a summer afternoon. All their motors seemed to run without a skip or a miss, and once or twice he saw pilots floating lazily down in parachutes apparently just for the joy of it.

An all-red plane came skimming close over their heads. The Skipper looked up quickly. He pointed it out to Kiwi and said:

"That's a Camel plane. Remember—I told you about them?"

The plane came back and landed not far away, and a pink-cheeked young fellow slid to the ground and came on a run to join their group.

The Skipper recognized him at once, and pulling Kiwi to his feet he said:

"Here's old Armbruster—the fellow who taught me to fly."

Kiwi looked the new man over with the greatest admiration, for Dad had told him many stories of Armbruster's flying skill. He remembered Dad's telling how he would take off from the ground into a loop, just missing the field by inches as he came around; how he had, on a dare, flown through a long hangar with just a few inches to spare on either side; how he used to fly across the tops of some saw-tooth hangars, just touching his wheels lightly on the top of each peak as he passed. Dad had said that Armbruster was the most natural flyer he had ever seen. He never needed instruments to tell him what he was doing.

Armbruster, when he found out who Kiwi was, made a

great fuss over him. He asked Kiwi all about Dad and what he had been up to. He wanted to know all about their flight and about the plane they were using. He suggested that he and Kiwi should go and inspect the "Dauntless." Of course Kiwi liked the idea.

Leaving Dad gossiping with old friends, they walked over to where the plane stood and climbed over it. As they were sitting in the cockpit together, Kiwi turned to Armbruster with the greatest seriousness and said:

"You know, sir, I have never really learned to fly, but Dad has been promising to teach me for an awfully long time. Do you think Mr. Armbruster, maybe you could find time to do it?"

Armbruster was delighted.

"Sure," he said. "I know just the plane, and later I will borrow it and we will send you off in no time."

After they had inspected all the instruments, some of which were new to Armbruster, they climbed out of the cockpit, Armbruster remarking that never before had he seen such a big petrol tank in a plane. Then turning to Kiwi, he asked:

"How would you like to make a tour around and see some of *our* machines?"

This was just what Kiwi had been hoping for, and for the next couple of hours they went from one plane to another while Armbruster pointed out their characteristics and the peculiarities of each.

He showed Kiwi a Sopwith-Dolphin, a compact biplane in which the pilot sat so that his head came above the top plane. That was a good plane during the war, Armbruster told him. It could go up high—about 20,000 to 22,000 feet—and had a back stagger so that the pilot had a good view both up and down.

Then they came to a Spad. Armbruster explained how the French had used them to splendid advantage, how fast they were, how beautifully they maneuvered, and finished up by saying, "All in all, a beautiful bus."

Alongside this plane was an enormous Handley-Page, its body towering above the little Spad, the wheels of its undercarriage being almost as high as a man. Two Rolls-Royce engines drove it through the air, and while they were talking about it another one came down to land, its slow descent reminding Kiwi of a freight elevator.

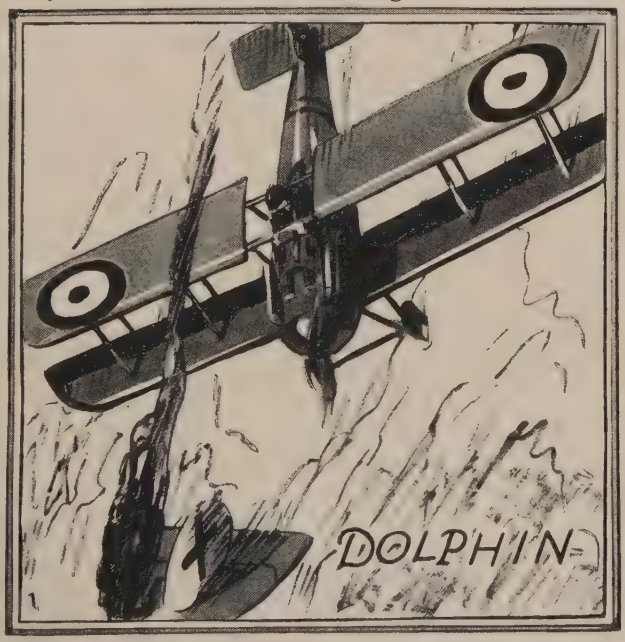
So they went from one plane to another. Soon they came to a German

Fokker D7, painted in glaring colors with lavender wings and a pink body.

Armbruster said, "That's Schaeffer's machine. He and I had a good many scraps during the war over around St. Quentin. However, neither one of us ever did much damage to the other, although one day he did get a couple of shots through my center section. If he is around anywhere I want you to meet him, for he and your Dad had a few skirmishes, too, in the old days."

Armbruster next pointed out an S.E.5, but this was not new to Kiwi. He had seen several of them back on the field at New York where they were being used for sky-writing.

A little later they came to where, sitting all alone, was a rather clumsy-looking plane, which Armbruster said was a B.E. They were known to all the war flyers as Quirks. Turning to Kiwi, Armbruster remarked:



"Kiwi, there's the plane that your Dad learned to fly in, and I am going to borrow it and see

how well you can handle it. It's a clumsy old thing, but you will love it before you get through with it. Let's go and look up the pilot it belongs to, and if he says the word I'll take you for a flip right now."

Kiwi's excitement began to rise, and even though they had not been able to finish their flight to India, he began to feel that learning to fly would be compensation enough.

As they strolled back in the direction of the group that surrounded the Skipper, pilots called to them from all sides. A boy among all these older pilots was considerable of a curiosity, and they all seemed envious when they learned that Armbruster was to teach him to fly.

They rejoined the Skipper and his friends, and Armbruster started off to find Hamer, who flew the Quirk, to get his permission to use the plane.

Just then Kiwi heard Thorne say:

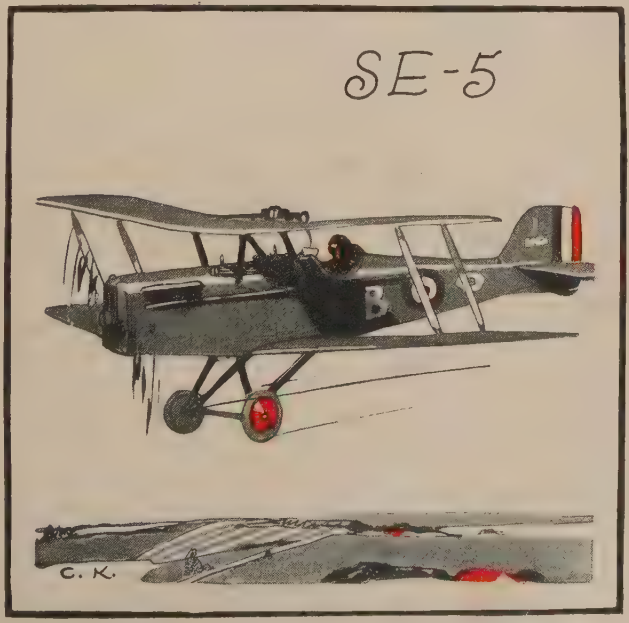
"What happened to little Jimmie Dugan? We heard at one time that he would join us, but no one has ever seen him. He certainly started for here."

Then the Skipper told the story of Jimmie Dugan and his adventures, and they found out at last why Jimmie Dugan never came.

Jimmie, though an American, had joined the Canadian army. From the first he had disliked carrying a rifle and had got a transfer into a unit of sappers. It was their job to dig tunnels far out under the lines, pack them full of explosives, and when they thought the enemy least expected it, touch them off from a safe distance with an electric fuse.

This form of amusement Jimmie had soon tired of and felt that he needed a little more action out in the open air; therefore in due time he became a dispatch rider, and sped over the highways and byways of France on a motor-cycle.

Getting a taste of speed, Jimmie looked about him for something better, and, as he expressed it, "Having worked *under* the ground and *on* the ground, I thought, why not try the air?"



His commanding officer, having in mind Jimmie's smashing destructiveness

with motor-cycles, had some misgivings about transferring him to the Flying Corps. There the possibilities of damage were increased a hundred fold. However, Jimmie made his officer's life miserable until it was accomplished.

Jimmie had learned to fly with only the usual few crashed undercarriages, and had been hurried out to the front during March of 1918, when pilots of any kind were in great demand.

Arriving at a squadron near Bailleul, Jimmie had been plunged into the war in the air without the customary few days in which to get acquainted with the lines. Almost miraculously he had done his work and escaped injury during the hectic days that followed upon the enemy's break-through in March.

Because of the terrific losses in pilots and planes during those days, Jimmie found himself a veteran of the squadron within three weeks. Time passed quickly. Every one was living his life to the hilt, resting his jangled nerves as best he could during the days it rained or clouds were too low for work aloft.

At the end of six months Jimmie was due for leave. His orders read that he was to catch the leave-boat for England on a certain afternoon. A car was leaving the squadron at eleven o'clock in the morning which would take him to the coast.

It was an unwritten law that pilots need do no flying on the day that a Channel boat is to take them to England and comparative safety.

However, by this time Jimmie's whole life was flying and fighting. As his kit bag was all packed, he decided to go off with the morning patrol for just one more look at the war.

It was a morning when their part of the front was comparatively clear of clouds. Off to their left, as they climbed, they could see banks of broken clouds that became thicker and heavier toward the horizon where England lay.

As they crossed the pock-marked and broken and torn country where men were living like so many rabbits, Jimmie sighted up in the sun a group of specks, looking as if a handful of pebbles had been tossed up there. They had not long to wait to discover whether they were friend or enemy.

Six Fokkers, their noses pointed down, their motors going full blast, swept down upon them. Jimmie could see the sun reflecting upon their brightly painted wings.

Jimmie's flight was out-numbered, for one of the S.E.'s had found it necessary to turn back with engine trouble just before they arrived at the lines.

The fight that followed had no new aspects for Jimmie. It had happened many times before. The familiar dryness was in his mouth. He felt the old thrill and tingle of the uncertainty of it as he pulled over and did a half-roll, making the first Fokker miss him on its dive.

In the confused minutes that followed he had no time to follow his friends in their efforts. They were all veterans like himself, and he felt relieved that Campbell, the new man with the squadron, had left them because of his dud engine before the fight started.

Jimmie was having his own troubles with a fellow in a Fokker with blue wing-tips. They were evenly matched until another Fokker, heavily camouflaged, had streaked a line of tracer bullets through Jimmie's struts, while his entire attention had been given to focusing his sights on the blue wing-tips.

As he yanked his S.E. around to drive this newcomer off, the fellow for a fraction of a second did the wrong thing, and a burst from Jimmie's machine-gun found its mark. The plane staggered like a wounded thing and went down out of control.

Jimmie turned quickly in time to see his blue wing-tip fellow engaged by another S.E. They were some distance off, too far for Jimmie to be of any help for the moment.

He looked about for new worlds to conquer. The fight had broken up his patrol. They were scattered widely, and now an anti-aircraft battery was devoting its whole attention to preventing Jimmie from regaining his own side of the lines.

The first burst startled him as it came up alongside and spread out level with him. The w-u-u-m-p of its explosion made his machine shudder, and he saw a ragged hole in the wing about four feet from the fuselage.

"I must fool this fellow," Jimmie said to himself, and as two more black, greasy palls of smoke followed the first, he changed his direction and steered toward them, knowing that the gunners would change their range slightly before trying again. Then for a few seconds he twisted and turned, lost height and gained it again, till the enemy gunners apparently decided to try for some of the others.

Away to his left Jimmie saw another S.E. picking away at an enemy two-seater. Inasmuch as he had the advantage of height, he decided to help in this little matter. Getting terrific speed from a long dive, he zoomed up under the fat belly of the enemy machine just as the other S.E. was swinging in from the other side. They both opened up with their guns at the

same time. The two-seater reared up into the air like a bucking horse, quivered for a moment, slid off on one wing, and a slow curl of black smoke streamed from it as it went spinning downward.

Jimmie's heart jumped within him as he saw their enemy go down. He yelled at the top of his lungs, trying to drown out the sound of his motor, "Not so bad for a leave day!"

Then Jimmie remembered he must catch the tender before eleven. He looked at his watch and decided that he could just make it if he started for home now. He throttled back his motor a little and made his way north. The wind had drifted him south and east, but always keeping a sharp lookout behind he made his way toward home.

He felt hot and tired now, and began to think of his leave and of the two weeks he would spend in England. He knew old friends would be there, and he began counting up the money he had saved for this vacation from the war.

The erratic shooting of an anti-aircraft group of batteries brought Jimmie's mind back to the war with a snap. If these gunners were shooting at him they were mighty poor marksmen.

Then he discovered a Camel machine starting on a long dive. He looked below to see what was attracting this fellow, and there only about fifteen hundred feet off the ground was one of those fat sausage balloons which carry officers in its basket who correct the fire of the artillery.

Jimmie gasped as he thought of this fellow taking a chance with a balloon, for he knew full well that a Camel had no business trying that sort of work. They dived too slowly to be effective, and observation balloons were always heavily

protected by machine-guns. Having the range of the balloon, they could surround it with a perfect hail of bullets through which it was necessary to pass in order to set the balloon on fire.

The thought flashed through Jimmie's mind, "Well, if that fellow's trying it, why shouldn't I? I still have time to take a shot at it and catch the leave-boat."

They were both diving now from opposite sides, the Camel's guns just starting to spit, when Jimmie was horrified to see the Camel quiver and burst into flames.

This fact was just impressed upon him when he heard the sing of bullets and the crackle of wood, and felt a stream of hot metal scrape both his legs. One terrific jolt hit him in the chest—and he went down.

His last conscious thought was of a burning sensation in his legs, yet there was no fire. All went black before his eyes and he must have fainted.

When Jimmie came to he found himself still strapped in his seat, the engine pointed straight down in front of him into comparative darkness, while pale daylight streamed in upon him over the tail.

Slowly he looked about him. The wings were gone! Turning his head with an effort, he saw them lying twisted and torn among the red tiles on the roof of the Belgian house into which he had crashed. Below him was a turmoil of sound. Deep, gutteral voices spoke in a tongue he did not understand. He tried to unhook his belt but was too weak to do it.

After minutes and minutes of talking and shouting, a ladder was put up beside him, his belt was unhooked, and he was

lifted out of the machine and carried to the floor below. Here they tried to make him walk, but he found it was impossible. So they carried him down to the basement of this house, and there, of all places, he found there had been fixed up an enemy first-aid station.

Jimmie saw the heavy face of the doctor as he bent over and impersonally examined him. The doctor spoke to an assistant, they both looked him all over again, and then the doctor gave a quick, sharp order to the stretcher-bearers who were waiting. They picked him up and carried him into another room, setting the stretcher down upon the floor.

As he looked around the bare little room, he made out two other figures—one stretched out in a bunk built into the side wall and filled with straw, the other on a stretcher near by. A soldier with a gun leaned against the doorway and inspected Jimmie curiously.

Gradually it came back to Jimmie that it must be eleven o'clock. There was a pain in his chest which hurt him to breathe, but still the thought persisted in his mind, "The car goes at eleven for the leave-boat." Then he slowly and painfully realized that the leave-boat was not for him. He was down . . . he had crashed . . . he was on the wrong side of the lines. . . .

If he could only breathe easier things wouldn't be so bad. Through the doorway came a man dressed all in black with a long cinnamon-colored beard. Suspended from his neck on a silver chain was a cross, which he fingered as he made his way to the figure in the bunk. It came over Jimmie that this was a priest who had come to give the Last Sacrament to a man who was not expected to live. The priest finished his

rites with the man in the bunk, then turned to the figure on the other stretcher, and again came the low mumble of his voice.

He next approached Jimmie.

Then Jimmie began to understand that the doctor had sent him to this room because he was not expected to live. This worried him not at all. He felt sure that if the obstruction in his chest could be removed, if he could take one long, deep breath, everything would be all right.

As the priest came toward him, Jimmie set up a great outcry. Not realizing that the priest might not understand English, he explained to him over and over again that he *must* be sent back to the doctor, and that if the doctor would remove this lump in his chest all would be well.

The priest appeared to be unconvinced. Jimmie half raised himself on his stretcher, and repeated again and again that the priest *must* send for the doctor. At last the priest seemed willing to humor him in his wish, patted him on the head and went out of the room.

Left alone, Jimmie was more miserable than ever, wondering if the priest had understood.

After what seemed to him an eternity, the priest came back, gesticulating with his hands to the doctor who accompanied him. Jimmie repeated his demands and the doctor, apparently convinced, leaned over, opened Jimmie's tunic, and after another examination had him carried back to the operating room. After a few torturous minutes with a peculiar wire instrument, the doctor gave a triumphant "Ach!" and held up for Jimmie's inspection a piece of metal the size of his little finger, and saying "Souvenir" handed it to him.

Jimmie tried, weakly, to take it, drew a long breath, and

almost at once began to feel better. For the next few minutes the doctor worked rapidly. He bandaged up Jimmie's chest and legs, and finishing his task this man in an enemy uniform seemed as pleased as did Jimmie.

"And then," the Skipper continued, "when I saw him after the war was over, he was being helped off a hospital boat at Folkestone, limping on two canes, it is true, but otherwise apparently none the worse for wear except that he had no buttons on his coat, his wings were gone, as were all his badges of rank.

"After I had talked to him for a few minutes I said:

" 'It looks as if the souvenir hunters had been busy with you. Where are all your buttons and your wings?'

"Jimmie replied, with a slow smile:

" 'I didn't lose them until after the Armistice. So many people in Belgium had been good to me, had shown me so many kindnesses, that I had to do something to reward them. And it was a very pretty girl who got my wings.' "

During the telling of the story of Jimmie Dugan's adventures, Kiwi had listened with divided interest. He was ever on the watch for Armbruster's return. That he might now get his chance to learn to fly was of more importance to him than stories of other days.

He did not have long to wait. Very soon the cheery face of Armbruster appeared, and he called out from a distance:

"All right, Kiwi! I'm ready now if you are!"

The Skipper looked up quickly. Kiwi put his hand appealingly on his father's arm.

"Captain Armbruster," he said, "has just promised that he will teach me to fly. May I go with him?"

By this time Armbruster had come up to the group, and he explained to the Skipper his plan to teach Kiwi.

"I believe I have the same old Quirk that you learned on," he said to the Skipper, "and I'm curious to see what sort of a hand this son of yours has for flying."

KIWI GETS HIS WINGS

CHAPTER X

AS Kiwi, Armbruster and the Skipper moved over to where the Quirk sat, they were followed by the entire group who were interested in this novel experiment.

Armbruster helped Kiwi into the front seat, and then they discovered that his legs were too short to reach the rudder-bar. A shout was sent up for more cushions. When two of them had been wedged in behind the boy's back he could work the rudder very easily. His helmet and goggles were adjusted and the belt holding him in his seat snapped in place. Then Armbruster attached the telephones so that he could speak to Kiwi up in the air, and swung himself into the rear seat. The engine was started.

As they left the group of onlookers there were shouts of encouragement and Jack, who had just come over, called above the noise of the engine:

"Kiwi, don't loop him the first time up, will you?"

Kiwi grinned, self-consciously.

They trundled some distance out on the field and turned into the wind. Then, with the propeller just ticking over, Armbruster said:

"Now, Kiwi, I am going to teach you to fly very much as I taught your Dad long ago. No harm can come to you here in learning to fly. But I know you would like to be just such a pilot as your Dad is, and so I am going to teach you, as he was taught, how to overcome the dangers which follow stalling a plane in the air and what you must do if the engine stops suddenly.

"I'll take the plane off the ground with my set of controls, and after we get well up in the air I'll let you fly it straight with your stick and rudder for a while. You know how it feels to be up. You know how the rudder works—that it swings the plane from side to side. You know that the joy-stick in your hand moved sidewise keeps your wings balanced; moved forward sends you down; pulled backward pulls the nose of the plane up. Now take your feet off the rudder and let me see both hands outside until I tell you to take over control."

Kiwi did as he was told.

Once in the air, Armbruster could not resist stunting the plane about over the heads of their audience. Kiwi was treated to an exhibition in flying such as he had never experienced before. The plane dived toward the group below, swished up in climbing turns, swung dizzily off on one wing and, as the wires whistled, pulled sharply around and recovered its poise. Kiwi had difficulty keeping his sense of balance or a clear idea of what the plane was doing.

After several minutes of such antics they flew straight and, wiggling the stick violently, Armbruster told Kiwi through the phones that he might fly it.

"First of all, " he said, "just keep the plane straight.

Keep the nose on the horizon—pick some point on it and fly toward it."

Kiwi felt elated that at last he was actually controlling a plane. He couldn't resist pushing the rudder slightly with his foot to see what effect it would have. It startled him to find that the slightest pressure sent the nose of the plane skidding sidewise. He hurriedly tried to correct this with the other foot, and discovered that he was overdoing it and that they were see-sawing back and forth in a crazy fashion.

The voice of Armbruster came through the phones:

"There, Kiwi, not too much rudder. Rudders are dangerous things. They have caused a good share of all the accidents."

Kiwi had the feeling that Armbruster had hastily corrected his errors and he gained new respect for the art of flying.

Armbruster's reassuring voice told him to try again. This time they sailed along very calmly, the nose on one spot on the horizon, seen through the glittering whirl of the propeller.

Again came Armbruster's voice:

"Your left wing is low, Kiwi. Pull it up slightly with your stick."

Here was another thing for him to watch out for!

At the end of a quarter of an hour they had gone a long distance from their friends and Armbruster said:

"I'll turn the plane around and then we'll fly back."

As Kiwi felt his instructor take over the controls he let them go, and the plane swung around in a small arc. Then the voice came:

"Now, Kiwi, take me home."

On the way back Kiwi practised again, only once getting

into difficulties when he got the plane into that alarming zigzagging.

They made several trips to distant points and back again. Then Armbruster said, "We'll land now and take a rest." And Kiwi confessed to himself that a rest from this concentration would be most welcome.

As they landed and taxied up to the group, several called out to know how the pupil was making out. Kiwi was elated to hear Armbruster say:

"The boy is good. A little heavy on the controls, but we'll have him flying in no time."

Dad grinned at him as he climbed from his seat and gave him an approving pat as he came over to where Dad and Jack were standing with Thorne.

After a few minutes' rest, and his instructor had had a smoke, they went up again.

Kiwi practised once more on this simple business of keeping the plane straight and on an even keel. Then Armbruster's voice came:

"We'll try a turn—a turn to the right—that's an easy one. Now, keeping your hands and feet lightly on the controls, you feel what they do while I make this gradual turn."

And while he was doing it, Armbruster repeated several times:

"A little bit of bank and a little bit of rudder—round she goes. Now you try it. Pull the stick slowly over to the right till your wings bank up; then when you have enough bank, pull the stick back to the center and at the same time push your rudder slightly to the right."

The plane swung around dizzily.

Armbruster's voice came through the phones: "Ah, you used a little too much rudder. It skidded that time. Now we'll try another one."

This time Kiwi's combination of bank and rudder were more nearly right, and the plane turned in a more normal fashion.

They flew straight for a while and then tried another turn to the right.

Armbruster now said:

"We'll try one to the left. That's harder because the torque of the propeller tends to pull the plane around to the left if you give it half a chance. So this time you need less pressure on the left rudder than you had before on the right."

Kiwi's first try was not so bad. But a later one pulled the plane around with a terrific snap and it commenced to do things that were beyond Kiwi's understanding. He felt Armbruster's hand on the controls as he rescued him from this predicament, and the old singsong came to him now, "A little bit of bank, a little bit of rudder—round she goes."

This flight lasted much longer than the other, and before they had landed Kiwi was beginning to make smooth and graceful turns in either direction.

During one of these later turns Kiwi was much startled as his engine stopped in the middle of one of them, and they seemed to be in difficulties. Then he noticed that Armbruster had throttled back the engine, and his clear voice came to Kiwi saying:

"I just wanted you to know what would happen if the engine suddenly stopped in the midst of one of your turns. You must quickly put on more bank and more rudder. If you don't do this in time, you'll find the plane out of control.

Try a few more turns and I'll stop the motor in some of them and you correct for it."

After a few more minutes of such practice they landed and rejoined the others.

Kiwi was bubbling over with the excitement of what he had learned and he had a thousand questions to ask both Dad and Armbruster about his experiences. They talked it all over and tried to tell him what he must do in each emergency.

If the engine stopped unexpectedly when flying straight, he must instinctively push the stick forward, keep the nose down, and keep his flying speed. If it stopped during a turn, he must rudder into the turn and keep his flying speed. Always he must do these things instinctively when the motor failed.

Dad and Armbruster and Jack all had stories to tell of some spectacular experience when motors failed at crucial moments in the air. Always when in the air the pilot's ear is attuned to the steady beat of the motor and he listens for its first missing stroke.

Another young flyer had joined the group and was listening interestedly to the talk about failing motors. During a lull in the conversation he said:

"Failing motors in the air are often bad enough, I grant you, but during the war a failing motor on solid ground turned out to be much more tragic for me.

"I had just returned to my squadron from a two weeks' stay in England and was talking to old friends and getting accustomed to the new faces in the mess. The other pilots were admiring the new outfit I had bought—shiny new field boots that I had had made at that little shop in Oxford opposite Exeter College, my whipcord breeches that were the pride

of a maker on the Haymarket in London, while my tunic came from Regent street—when an orderly came up and handed me a slip of paper. It requested me to report to the Major at once.

"I hurried over to the squadron office to my commanding officer. He looked up when I entered and said:

" 'I know you are just back from leave and may not have your bearings yet, but the people at the Wing Headquarters have just given me a job which is in your special line. You have done it so many times before that you should have no trouble this time. We have another spy to land back of the lines tonight, and since Gathergood is gone, you are the only man I have who can do the job. Here on this map is the location where you must land this fellow, and he'll be here ready to start with you at eleven-thirty. I'll have the Sergeant-Major get a good machine in readiness for you.'

"There was nothing for me to do but accept this doubtful honor. Landing spies back of the lines was no child's play, as you know. If caught, your uniform was no protection. You, too, were classed as a spy and met a spy's fate.

"However, as it was then only nine-thirty I went back to the mess and had a rubber of bridge before word came that my spy had arrived. I hurried over to the hangar, and as it was a warm night did not stop for a flying suit. I wrapped a muffler around my neck, slipped into my helmet and goggles, and climbed into the machine which the mechanics had all ready with the motor started.

"My passenger was already in the rear seat. I had no time to talk to him. He gave me a jaunty little wave with his hand and then slipped down low in the cockpit out of the

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way of the wind from the propeller. He looked like any middle-aged French peasant that one might meet on the road.

"Almost automatically I taxied down the field and took off. As I came across the hangars and swung over toward the direction of the lines, I saw that the lights in the hangars were being switched off and knew that all would be darkness there until it was time for my return.

"The motor hummed sweetly and I began looking for landmarks. There was no moon and the earth was a black smudge beneath me. I crossed the lines at a great height and could just discern the Lys River as a dim streak in the inky blackness. There were a few star-shells coming up from the direction of the lines, and here and there an occasional flash of artillery fire. It was a quiet night in this particular sector. A few miles to one side two searchlights were groping aimlessly across the sky. All seemed serene and peaceful up aloft.

"Shutting off my motor so that the propeller was just slowly turning over, I started on a long glide through the darkness. Leaning over the side I tried to pick up the little village that was to be my brief stopping place.

"Lower and lower we slipped through the still air. For a few moments I was a little confused, but upon switching on the light on my instrument board and consulting my map, I located a particular road that led through a large forest. By this time my spy was also leaning far over the side, and as we came lower he pointed out the field we must land in.

"It crossed my mind as we were getting low over the trees that I should have opened up the engine for a few seconds to keep it warm. A long dive such as we had just made was apt to cool it to the point where it might not pick up again

when I needed it. But there was no time for that now. We were too low and the noise of it might arouse troops that happened to be in the vicinity. Sideslipping into the field, I straightened out just in time, and we came to a stop beside a fringe of trees.

"My passenger lost no time in getting out. He was just clambering over the side with a parting 'Au revoir,' when the motor and my heart-beats stopped at the same time.

"I explained to him rapidly in a low voice that he must turn the propeller over for me to start the motor again. He was willing enough but unaccustomed to such work, and he was not able to swing the propeller hard enough to do the trick.

"Unhooking my belt I jumped out. I had tried twice to turn it over when we heard the pounding thud of heavy boots on the road. It meant that we were discovered. Evidently soldiers in the neighborhood had heard the sing of the wires as we glided into the field.

"The spy said, 'Be quick! Or they'll stop you!'

"Swinging frantically on the propeller I tried twice again. But the engine refused to start. We could hear the crashing of underbrush as they approached, and without more ado the spy touched my arm and said, 'Follow me!'

"We darted into thick woods and then through a clearing just as our pursuers discovered the plane. They must have halted to examine it, and thus gave us time to cover a lot more ground. The spy seemed familiar with the territory for he swung into a path through the forest which led to another road. We could hear the searching party floundering about in the woods, but they did not seem to know which direction we had taken.

"Cautiously following the road we kept well in the shadows and came at last to a stone farmhouse surrounded by a wall. The spy motioned me into the darkness of a doorway and told me to wait. He rapped cautiously at the gate with a peculiar knock, and sometime later a man's voice answered him. The two men held a long consultation, and with many gestures seemed to be pointing out a direction.

"Then the spy came back to me and explained briefly that it was too dangerous to stay there—it was too close to where the plane had landed—and that we must make our way to a certain house about three miles farther on.

"Then began a nerve-wracking walk through roads and lanes. At one place we made a wide detour to avoid going through a town. If only I had worn my flying suit it would have covered my uniform and made it a little more difficult for the chance passerby to recognize me as an enemy.

"At last we came within sight of the farmhouse, which was to be my home. I was left in the shadow of a wayside shrine while the spy went ahead to make preparations for my reception.

"He came back in a few minutes with word that the coast was clear. I was taken into the white kitchen and introduced to the Belgian peasant and his wife and their son. He was about Kiwi's size and regarded me shyly. They talked together for a long while, in what I took to be Flemish, apparently trying to decide how best to conceal me. The peasant and his wife seemed apprehensive, and the spy informed me that they were fearful that at any moment the Germans might come to search the house.

"A peasant outfit such as the farmer wore was given me. I discarded my uniform and field boots and slipped my feet into heavy wooden shoes such as they wore.

"Another consultation took place and a decision was finally reached. My precious uniform was to be destroyed! And as I sat sadly before the fireplace, my boots, breeches, tunic—one after the other—went up in flames. For only two days had I swanked about in them—and now they were gone.

"Realizing that I could speak nothing but English, which was entirely unsuited to my present rôle, they pondered a long time on how to overcome this difficulty. The spy, who must have been quick-witted or he never could have succeeded at his profession, solved it by painting the lower half of my face with iodine and binding it up with dirty cloths. He explained to me that if the house should be searched and I should be questioned, I was to indicate to the Germans that I had had an accident to my jaw and was unable to speak.

"There were several narrow escapes for me during the weeks that followed.

"The spy left just before dawn with the comforting word

that he would be back for me in a few days' time and conduct me through the lines.

"The days dragged into weeks, the weeks into months, and still I stayed on in this little farmhouse and watched our fellows flying overhead, ceaselessly bombing an innocent patch of woods which they probably thought contained an ammunition dump.

"Eventually I got through the lines and back home and was able to set them right about that harmless strip of woods. But you can easily understand why I feel so strongly about engines failing, even on the ground."

The whole crowd laughed at the mournful face of the young fellow who had just told the story. He looked as though he were living over again the loss of his precious new uniform.

During this recital Kiwi had been stretched out on his back gazing up at the cloud-flecked, blue sky above him. A pilot in a very old type of plane had been doing the most spectacular flying just over his head during the whole story. He was dressed in ordinary clothes, had no helmet, but flew with a peak-cap worn backwards. Diving vertically, he pulled out just over their heads, grinning at them as he did so. Then he climbed straight up until he was a tiny speck in the blue and repeated his hair-raising dive.

Kiwi marveled at this performance. Never had he seen a plane stay in a vertical dive so long and come out of it unharmed. And this flyer seemed to get so much satisfaction from the maneuver and repeated it so many times that Kiwi finally inquired who he was.

Thorne told him that the pilot was one of the best of the early American flyers, who had been well known for this

particular maneuver—and even here he was famous for it.

They watched him as he at last tired of flying and came down to rest on a solid-looking cloud above their heads. He got out of his machine, waved to those far below, and stretched out on the soft surface of the cloud for a nap.

Back home this would have astonished Kiwi, but here he was becoming accustomed to such things and did not consider it at all queer. Here he was seeing all sorts of strange things which interested him but had ceased to bewilder him.

Later on he was to see workshops everywhere, in which inventors were puzzling and studying over machines that in the other world they had had no time to develop.

One young fellow provided a great deal of quiet amusement for the others by exhibiting a large bump on the back of his head, which he proudly said was developing into a third eye.

Thorne explained to Kiwi that here was another of those war flyers who had been struck with the idea during the war that an additional eye in the back of one's head was absolutely necessary for a flyer; that he had concentrated all his thought upon it, and that here he felt he would surely grow one.

Kiwi now became restless and got up to stretch his legs.

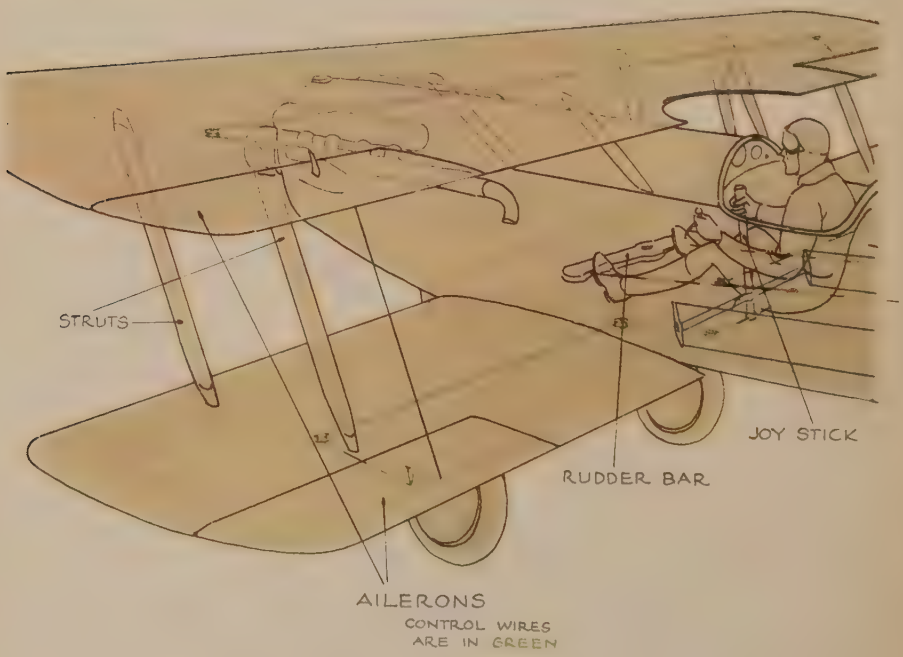
Armbruster rose too and said:

"Kiwi, let's get on with the flying."

They strolled over to their old plane which, though somewhat battered, still bore the number on the tail that the Skipper remembered so well—A-4812.

"Now this time, Kiwi," Armbruster said, as they resumed their seats, "I am going to let you take the plane off the ground. Remember, open the throttle slowly till the engine is running smoothly; then, as the plane gathers headway,

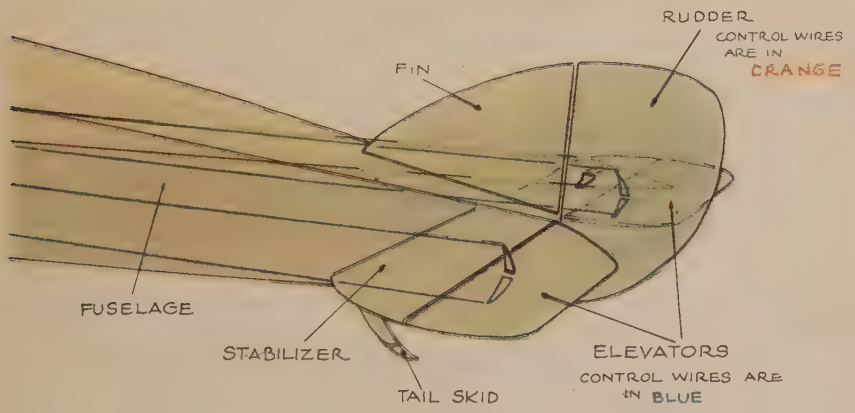
push the stick forward till the tail is off the ground. As it rolls along and gathers speed, pull the stick back ever so little. If the plane doesn't rise, don't force it but wait till it seems to pick itself off the ground. Keep a sharp look ahead and be sure and fly straight. Don't let it swerve." Then he added, "All right! Let her go!"



Kiwi did as he was directed, but was warned a few seconds later, "Don't get the tail too high." And as they were speeding over the ground, "A little back pressure on the stick," came through the phones; and then the plane started to rise. Kiwi's eyes were glued on the horizon and he concentrated on keeping the plane in a straight line until the voice told him it was time to turn.

He swung cautiously around to the right and was pleased to hear Armbruster's voice telling him "That's fine!" They practised turns to the right and turns to the left, and Armbruster landed the plane two or three times so that Kiwi could take it off and master that particular lesson.

They finally landed, for it was getting dark.



Early the next day Armbruster said:

"Now we'll start on the landings. I'll pick out a certain spot for you to land on, and you must judge your distance just right, throttle back the motor and glide down. Be sure and keep the nose down so that your flying speed doesn't register below fifty-five miles an hour. Then, as you see the ground approaching, pull back slightly on the stick until you are flying on a level with the surface and just a few inches above it. It takes a lot of practice to judge this distance just right. You will find it's easier if you look over one side or the other of your cockpit—whichever is more natural for you, do it that way. Then as you are gliding along level and just as you feel the plane start to sink, pull the stick back in your tummy and you'll land all right."

Kiwi took the plane off and did a few wide turns to the right and to the left until he realized he was performing big figure eights in the air. Then Armbruster said "There!" and pointed to a spot upon which they should land.

Kiwi's first try at throttling back was too soon. He felt his instructor push the throttle forward again. But his next try seemed right and he glided down to make a landing. He watched, fascinated, as they drew closer to the ground, flattened out too soon, and discovered that they were flying level at least twelve feet off the surface.

Armbruster put the engine on. They climbed up and came back and tried again. This time Kiwi judged his distance better. They glided in, bounced a bit, but came to a stop with no damage done. Again and again this was repeated until Kiwi had learned to gauge the distance perfectly.

Stopping in the middle of the field, Armbruster called to

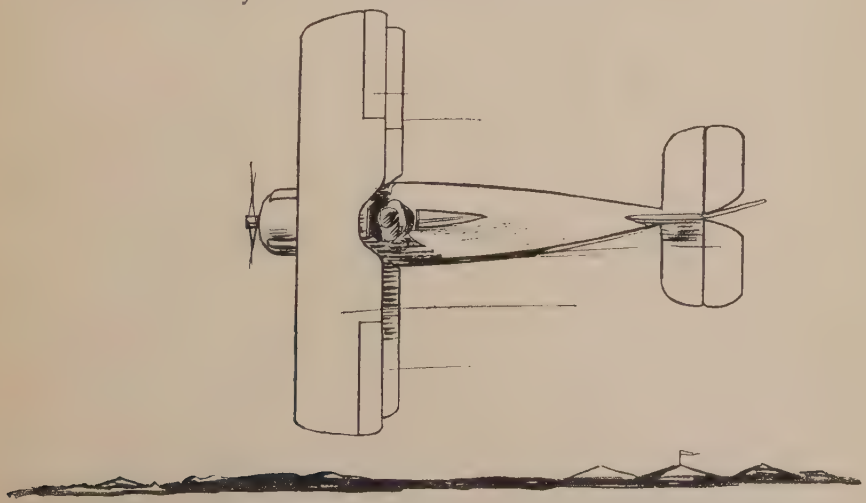
him that now they would change places Kiwi knew this meant that Armbruster trusted him. He took his cushions and moved into the rear cockpit. They took off again.

He made several landings from the back seat, and then his instructor said:

"There's a few more tricks you've got to learn, Kiwi. I'm going to take you up and put you in a tail-spin and you must get out of it."

Before going up again his instructor explained to him that all his turns up to this point had been gradual ones in which the control surfaces acted in a normal manner.

"To make a sharp turn," Armbruster further explained, "it is necessary to increase the bank to keep the plane from skidding out sidewise. In banking sharply, where the wings tip up until they are vertical, the action of the elevator and the rudder is reversed. That is, you now use your elevator as a rudder and your rudder as an elevator.



"You must get this firmly fixed in your mind, Kiwi, for it is very important. If you don't, when you come to make a vertical turn and find the nose dropping, you will instinctively pull back the stick which, in the vertical position of the plane, will not lift the nose. For now the elevator, acting as a rudder, only makes your turn sharper and the nose will continue to drop. To correct this you must lift the nose with the rudder.

"Are you sure you understand this, Kiwi? Starting to make a turn, you put on a little bit of bank and a little bit of rudder. As you put on more bank and the wings approach the vertical, the stick is returned to neutral and you reverse the rudder to keep the nose level, gradually pulling the stick back to keep you in the turn. That's the way to make a vertical turn.

"Now if you do this wrong, and the nose drops and the plane starts to spin toward the earth, shut off the engine, put your stick and your rudder neutral, and immediately they *are neutral* press the stick forward so that you will get into a straight dive. The plane will then be behaving normally and can be pulled out of the dive in the usual fashion by pulling back gently on the stick and at the same time putting on the engine."

After this explanation they went up very high to practise vertical turns. There were many other planes much higher than they, and Armbruster called out:

"Kiwi, do you see that little group of tiny specks to the right? That's a crowd who are going off on a sight-seeing tour to some other planet. Next time they go we'll go with them, for it's lots of fun. You fly on and on through space, and the air turns blue and lavender and finally a clear, yellow-

ish white as you approach the other worlds. The pull of gravity gets less and less until you feel as light as a feather and your plane is rocked this way and that by the whirling eddies of air.

"But now, Kiwi, we must get on with our flying practice."

Time after time Kiwi got into spins whenever Armbruster's instructions as to the turns were not properly followed. But it was not long until he had become accustomed to the actions of the plane in a tail-spin, and as they were still very high he was able to pull them out.

Armbruster now felt that he had taught Kiwi enough of the art of flying for him to fly alone and to feel perfectly confident. They had flown at times when the air was very bumpy, and although at first it had frightened Kiwi somewhat, he had soon learned to correct for the bumps automatically.

Armbruster knew that after a little practice he could teach Kiwi to loop, which was only a matter of diving the plane until it had attained speed enough to carry itself over the top of the loop. He knew that Kiwi would soon learn to keep enough rudder on to prevent him from falling out of the loop sideways. All the other forms of acrobatics could only be learned by practice after the fundamental things had been thoroughly mastered.

As they landed, Armbruster said:

"Taxi the plane in, Kiwi, and we'll see if Dad will give you a final test before I send you off solo."

Rejoining the group who had been watching them, Kiwi's face was wreathed in smiles.

Armbruster called out to the Skipper, "How about testing this pupil for me, Captain?"

Dad shook his head as he said, "I'd rather some one else did. Let Jack take him and give the final word."

So Jack put on his helmet and goggles, climbed into the front seat and called back to Kiwi:

"All right! Take me up for a ride."

Kiwi took the plane off beautifully, circled both to the right and to the left, put the plane into a spin and recovered from it, and amply proved to Jack that he was fit to go up alone. As they came down Jack called to him:

"You'll do, Kiwi! Armbruster has done another good job!"

As the plane drew up to where Dad and Armbruster were standing, Jack stopped the motor and said to Kiwi:

"As soon as the air gets a little quieter I should think you could take it up alone."

Here Armbruster cut in, "Don't you think the boy does very well for the few lessons he's had?" And Jack agreed with him.

While other planes overhead swooped and turned against the blue sky, they gave Kiwi his final instructions. Armbruster told him to take off, go to at least five hundred feet before he made any turn, fly around until he felt perfectly comfortable, and then to shut off his motor and make his landing; that he ought to make at least five landings before they could pass on him as a finished pilot

Then Dad said, "And don't forget, Kiwi—don't fly away and leave us, for we want you back here."

"I'm ready to fly now," replied Kiwi, very excited. "Is it all right, Dad?"

Permission was given, the engine was started, Kiwi's cushions were patted into place and his belt buckled.

Armbruster called out, cheerily, "Don't forget my instructions, Kiwi, and you'll show them."

As Kiwi taxied off by himself the little group cheered him

on. Reaching the middle of the field, he turned into the wind and found a second in which to wave to those who were watching him. Then, without waiting further, he pushed forward the throttle and his first solo flight was on.

Cautiously but perfectly Kiwi took the plane off the ground. He felt a tremendous elation as he found himself alone in the air at last, in full command of a plane. Now no one was helping him. This bird of wood and fabric and metal was his to command.

While Kiwi had been learning to fly he had been watching the birds, which were present in great numbers, do their flying. Particularly he had noticed some large black birds, not unlike crows, wheeling and circling and coming to land amidst the gusty air close to the surface. They always swung around into the wind when landing, and one of them—his mind, no doubt, preoccupied by other matters— had flattened out too high up and came down on his feet with quite a bump, and looked as startled as Kiwi might have looked in a similar circumstance.

The little group on the ground saw Kiwi soar into the air, and each lived again his own first solo. They forgot, for the time being, that no harm could come to him, and hardly a word was spoken as they watched with bated breath while the plane circled and turned as Kiwi tried out his skill. No one in that group could help him now. He was "on his own."

Then Kiwi decided that the time had come for him to attempt his first landing unaided. He throttled back his motor to make the attempt. Now was the test!

No strain ever quite equals that of a pupil's first landing. No matter who the pupil is, everyone within sight or hearing

pauses tense until it is over. The group stared, fascinated, as young Kiwi glided down, flattened out a few inches above the surface, and settled down to a perfect three-point landing.

Kiwi had done it!

A shout went up and they pounded the Skipper on the back as he watched, almost unbelieving. Kiwi was a pilot! He had mounted into the air alone, had mastered the air, and had landed beautifully. He was now one of them—a flyer in his own right, a pilot in that quiet kingdom.

He made several more landings, and then as he taxied back to the group Armbruster said:

"The name Kiwi doesn't fit him now, but it will probably stick to him forever."

It was not long before Dad and Jack and Kiwi became accustomed to this carefree life and made many excursions off into the upper air in the "Dauntless."

The moon had always had a great fascination for Kiwi, and on one flight with Armbruster and some of the others, they soared up to it and landed on its barren surface. They climbed in and out of the deep hollows of its dead volcanoes; they explored its caves and the rocky beds of its dried-up rivers.

They went on numerous excursions to other planets, where sometimes they landed and exchanged experiences with the strange inhabitants. The flyers were looked upon as strange adventurers, for on none of these other planets had the art of flying been developed. But always as they floated down like a bit of fluff to their own kingdom, they were happy to be back among their own kind.

And Kiwi began to feel that his place with them was now assured, that he was one of them—a pilot with wings—a Kiwi in name only.

THE END

EDITOR'S NOTE

For many weeks the newspapers in and about New York and in the Middle West carried an advertisement and a request for information. It had been inserted by order of the captain on one of the big trans-Atlantic liners. He was holding in trust a silver cigarette case which he wished to restore to the friends or relatives of Captain Malcolm McBride, skipper of the plane "Dauntless," which had completely disappeared while on a non-stop flight from New York to India.

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